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THE RELATION BETWEEN DRINK- ING WATER AND TYPHOID FEVER.

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Typhoid fever is caused by a peculiar and specific poison. I do not know that this is denied to-day by any one competent from careful study and thorough investigation to give trustworthy information on this subject. Does it arise "de novo?" All the investigations that I have made have proven to my mind that the poison which produces typhoid fever cannot be generated spontaneously, but must come from another case. I am aware that there are some physicians who, even now, believe that it originates "de novo," and they give the examples and cases which prove to their minds the truth of such belief. But the cases cited as proofs, in my opinion, are generally defective, and do not exclude the possibility of infection from a preceding case.

Take, for example, the four instances given by Dr. R. W. Hutchinson, of Queens county, N. Y., published so late as October 9, 1886, in the *MEDICAL AND SURGICAL REPORTER*. I will not occupy your time by criticising all these cases, but will select the fourth, which seems to be the strongest, as follows:

"4. In the last part of August, 1885, a party of young folks, numbering some fifteen, started out to spend the day on the banks of a creek, near East Rockaway. They carried no water with them, but relied on securing a supply from a sunken barrel, near the creek, that had been used for a number of years. On this occasion it was noticed that

the water tasted and smelled badly, so much so that some of the party refused to drink it. Exactly one week from the day of the picnic most of those who had drunk the water, some nine in number, were stricken down abruptly with typhoid fever. I regret very much that I did not have the opportunity of examining the barrel with its contents immediately after the picnic, as I am now left in doubt as to the cause of the decomposition in the water. Shortly after the outbreak of the fever, some person, fearing that others might drink, pulled up the barrel and destroyed the well. But, from a number of reasons, I can positively say that there was no possibility of the water being contaminated with the fecal matter of a patient suffering from typhoid fever, which is the recognized way of communicating the disease; and if the germs of the disease did not originate "de novo" in the well water, I ask the question—where did it come from?"

You see the doctor gives no reasons why the well could not be contaminated with typhoid fever, though he says he has a number of them—yet he says he had no opportunity of examining the barrel, nor its contents, but he *heard* some of the party say that the water tasted and smelled badly. Notice that in less than seven days most of the party of nine who drank of the water were suddenly stricken down. This fact, in itself, might occasion some doubt of the fever being a true typhoid, as the incubation period of typhoid fever is usually longer, though there are instances on record which would have a tendency to show that typhoid fever may occur with a shorter incubation period than two weeks. Two weeks, however, is about the usual time.

What a blessing it might have been if the doctor had only told us the precious little secret of how he knew that no one had been in that vicinity, whose fecal matter might have affected the well.

Then, take the cases cited by the illustrious Murchison, who has done so much for the thermometry of typhoid fever, but who has, perhaps, led astray more students on the origin of the poison than any other man. None of his cases are, in my opinion, conclusive, and this opinion is sustained, also, by the opinion of Dr. J. H. Hutchinson, of Pennsylvania, who says, in an article on this subject, that the cases referred to are by no means convincing. See page 256, "System of Medicines, by American Authors," just published.

The case put forward by the advocates of the spontaneous origin theory, as one of their strongest, is that reported by R. Bruce Lowe, Medical Officer of Health, Helmesley, Yorkshire, published in the *Brit. Med. Jour.*, in 1880. "It occurred," he says, "in a lad who had not been away from home for months. No stranger had visited the house, and there was no fever in the district;" but Mr. Lowe admits there was a case before, only eight months past, and only eight miles distant, and he does not prove there was no possibility of infection, either by domestic animals or by streams of water. It is a well known fact that when the great forests of pine are cut off the land, in the northern part of the United States, there comes up a thick growth of oak timber, immediately succeeding, and the common opinion of people who notice this strange phenomenon is that the little oak plants originate spontaneously in the soil. I think you will hardly believe this explanation correct, but the same agencies that sowed the original seeds in the forest, it must be admitted, are equally competent to sow the seeds of typhoid fever in unexpected places, occasionally, at least. The man who starts out in this stage of opinion to prove that typhoid fever originates "de novo" assumes a great a greater task than Hercules.

No combination, either of filth, fecal matter, or sewer-gas, has ever yet been discovered that will produce the disease.

What are the physical characteristics of the virus of typhoid fever? Is this virus a liquid, a solid, or a gas? Evidently it is matter of some kind. Inorganic matter may be either solid, liquid, or gas; organized matter is never liquid, never gas. We conclude it is not a gas for the following reasons:

1. The gas has not been isolated.

2. It would be more apt to go through the air than otherwise, which is not the case with this virus.

3. All known gases that affect the system profoundly, or that affect the system at all, do so at once, or in a few minutes after their reception into the system.

Can a dose of carbonic gas, ammonia gas, illuminating gas, or any other poisonous gas, be taken, and lie in the system for from two to six weeks, and then begin to develop a train of trouble—a uniform succession of symptoms, like typhoid fever, or small-pox, or any other of the zymotic diseases? Never. Is it a liquid—this virus? The same objections apply to this theory as to its being gas. Is it composed of solid particles? If so, these particles must be of nearly the same specific gravity as water. There is no evidence to the contrary, at any rate, and these solid particles must be very small, for water known to contain typhoid fever poison is often apparently clear and bright. Filters do not seem capable of sieving out these particles—these poisonous particles, and this poisonous matter. At least water has been filtered through ten and even one hundred feet of sand and earth, coming out clear, but still bearing the poison in sufficient quantities to produce fever and cause death. So far as is at present known, the poison has not been filtered out of the water by any kind of filter. This would lead us to think it was really dissolved in the water, but for the fact that a system of very fine filtration has not been tried upon suspected water, and then the water given to persons to drink, to see if the disease would be produced by it. There is no case on record of any person ever having taken the disease from water that has been boiled, thus showing that, as far as known, the boiling temperature destroys the poison.

The theory that the poison of typhoid is an organized poison, or germ, or bacillus, seems to explain its action more completely than any other.* This phase of the subject was carefully discussed, and its progress given at length by me in an essay written in 1876, and published in the *Country Practitioner*, volume 2, Nos. 6 and 7. Whatever may be considered the nature of this virus, the fact that water is its principal distributor is certain. Indeed, a careful study of the cases and statistics that I have examined, seem conclusive that at least 95 per cent. of the cases of typhoid fever come directly from the water. The poison which produces this

* Klebs and Eberth both claim to have discovered the bacillus.—*Philadelphia Medical Times*, Dec. 3, 1881.

disease does not go through the air. Physicians permit people to go into the sick room where the disease exists. Washerwomen have been known, in rare instances, to take the disease from the water containing the soiled linen, which has infected their hands and gotten into their mouths and absorbents.

The infected wash water is very often thrown on the ground near a well or into a sewer, with the more poisonous dejecta. I have seen two cases that occurred among sailors, who drank water from the Delaware river opposite the Philadelphia sewers.

There is one instance* where it has also been shown that cattle have been afflicted with this disease; but in tracing this disease still further back, it was found that the cattle caught the disease from drinking infected water. The milk supply has also been known to have been affected. So, the more we investigate the subject the more strikingly the fact stands out that water is the main habitat of the poison. Several facts show, also, that when water contains a little organic matter the virus will be active for at least a year, in still water, and very probably for a number of years, as some of the cases cited prove.

The ways in which a well, or a spring, or a stream, may become infected are so numerous and hard to trace, that sometimes they defy detection. For instance, a man may leave the city where typhoid prevails more or less at the time, and be either in the first stage of the disease, in a slight form, or convalescing, or be a walking case, perhaps not even knowing what is the matter with himself, getting out of his carriage or a railway car, taking his gun for a few hours recreation, and, as it so often happens, is seized with a desire for evacuation. This may take place in the vicinity of a spring, or stream of water, whence will thus start up one or more cases of typhoid fever, and the manner in which the water became infected will never be known—will forever remain in doubt, and a mystery. Even the presence in that locality of this person may never become known, or they may have known of the presence of such a person and may have forgotten it. Recent investigations show the intimate relations of this disease to drinking water to be so close and so constant, that it is hardly ever worth while to think of any other source of contagion. One of the most remarkably clear examples of this relation of drinking water to typhoid fever occurred last year at Plymouth, a small city in Luzerne county, Pa., and for the invaluable

lessons taught by this epidemic we owe much to the committee sent by the Mayor of Philadelphia to investigate the subject.

I quote from the report of the committee as follows:

"The mountain stream is a small one, running down over a rocky bed, and on a declivity not eighty feet from its bed a dwelling is situated, wherein, during January, February, and March, was located a case of typhoid fever, that is only now convalescent, the worst period of the case being about the 30th of March. The attending nurse was in the habit, during each night, of carrying the excreta from the patient and depositing it on the ground towards the stream. The ground, during all this time, was frozen, and covered with snow, until the thaw and rain already alluded to occurred. The poisonous character of the dejecta is not destroyed by freezing, but is only kept in a state of hibernation. A great part of the three months' accumulation of dejecta was suddenly swept into the rapidly-running stream, and reached the lower reservoir as quickly as a man walking fast would have arrived there.

"In fifteen days from this time the epidemic began, fifty cases occurring daily between the 10th and 20th of April. Up to the present 1200 people have been sick, and one hundred have died, out of a population of eight thousand. For the first three weeks the few people in the town who used well water exclusively escaped the disease. The period of incubation varies from ten to twenty days, or longer, and therefore no other conclusion can be arrived at than that the infective poison existed in the mountain stream water, and originated from the one case of fever in the house on the side of the stream."

This entire and comprehensive report is on file in the Mayor's office, Philadelphia.

Last October a severe epidemic of typhoid was in progress in Imlaystown, N. J., about forty miles from Camden, and I went out there to investigate it, and was greatly assisted in so doing by the kindness of Dr. H. G. Norton.

I found that a brook about four feet wide runs through the village. A street runs parallel with the stream about one hundred feet from it. A row of houses is situated between the brook and the street, and the back yards extend to the brook, about forty feet distant. Between the brook and the houses is situated a row of privies and a row of wells for drinking water. The privies are situated on the bank of the brook, so that the fecal matter from them has run into

* Kloten, Germany, 1878, Berlin, Klein. Wochenschrift.

the brook, a distance of only about four feet. The wells are between the stream and the dwelling-houses, and about thirty or forty feet from the brook. The somewhat impervious stratum has a slight dip towards the wells, and underlies the locality. On measuring it was found that the floor or the bottoms of the wells was not more than a few inches below the floor of the brook, and when the water was high in the brook it was also high in the wells. The soil was porous between the brook and the walls of the privies.

Beginning up street, and designating the houses, which are but a few feet apart—not over fifty feet—and numbering them “one,” “two,” “three,” I will give you the following explanation:

In 1883 a family came to number one, suffering with typhoid malarial fever and diarrhoea. The children had fever and bowel trouble, with diarrhoea, lasting for months, until the spring of 1885. On August 4th, 1885, a young lady was taken with typhoid fever in this same house. On August 28th another young lady was taken with the disease in number two, the next house below, down the stream. August 27th a patient at number three took the disease. September 12th another patient took the disease in number three. In September a relative of the family in number two visited the town, drank the water, and died in a few weeks afterwards of typhoid fever. September 30th a patient opposite to number two took the disease. In the spring of 1886 the family had moved out of number two, the well had been kept closed and had not been cleaned out. A new family moved into number two in April or May, 1886. The boys drank the well water, in spite of protests, and took the disease in June, 1886. One of the brothers died. The girls, who would not drink the well water, escaped the disease.

An analysis of this water from the wells for the State Board of Health by Professor H. B. Cornwall, of Princeton College, showed the water to be thoroughly contaminated with fecal matter. Evidently the virus had remained in one of these wells; a year had passed, and yet the winter had not been able to kill it.

The length of time that the virus will remain active has not been ascertained, but it is known to be years, in water that is not much disturbed.

I have cited these examples because they are so recent and so near at hand. Hundreds of instances might be cited, and the evidences piled up *ad libitum*; but, if further

examples would not be superfluous in this paper, the time allotted to me would preclude my citing them here. I might say now that much of the data upon which my remarks have been based is not included in this paper for the same reasons.

In the face of what is already known, I do not think any student of sanitary science can deny that the poison of typhoid may be carried by the water supply. I do not know that any do deny this, but the *extent* to which it is carried by water, and the preventability of the same, are the great points that do not seem to be sufficiently appreciated by us, and scarcely appreciated at all by the people in general.

If the people can be made to understand that almost all the cases of typhoid fever come from the water-supply, and that there is no disease more easily prevented than this, we shall have accomplished the first great step towards the annihilation of one of the worst destroyers of mankind.

Look at the dreadful suffering caused in Philadelphia and Camden to-day by ignorance or indifference to these facts. Only a few days ago a noble wife and mother died in our city of this dread disease, thus blighting the prospects of a happy family; and as I stood by her bedside I could but regret that another valuable life had been needlessly sacrificed.

The city of Camden had connected the water-closets and sewers containing the poison with the water-supply, and then distributed it thus laden with the deadly virus to the inhabitants of this city, but a few hours after it had left the deadly sewers. The husband of this lady, “as a lamb, dumb before his shearers, opens not his mouth;” so he paid his water tax to the city, his wife drank the dearly-bought “distillment,” and gave up her life as the result.

Is there no redress? Is there no hope of escape for the people of these great cities? Must they continue to die by hundreds, as the death returns show every year, at a greater cost and expense than pure water could be procured for? Philadelphia also pours the poison into the cup, and then puts it to the lips of her most choice citizens, and kills off about seven hundred of them in a year, according to the official report.

The disease cannot occur without the virus to produce it, and the virus can be kept out of the drinking-water, and it should be kept out at any cost. It would pay at any price. Every death that is preventable is needless, and is a reproach to the community. Dr. E. O. Shakespeare, an eminent investigator of

contagious diseases, who has been sent abroad by the highest executive authority of the United States, to investigate the nature and causes of cholera, says, in the *New York Medical Journal*, in January, 1885: "That epidemics of typhoid fever are absolutely preventable and controllable, and neglect to employ proper means to this end should be regarded as inexcusable."

Great reforms and revolutions have taken place within our own recollection, and the student of sanitary science even dares to indulge the hope that even during his short life he may have the pleasure of seeing the death-rate from typhoid fever reduced more than ninety per cent.

INEBRIETY TRACED TO THE INTOXICATION OF PARENTS AT THE TIME OF CONCEPTION.

BY T. D. CROTHERS, M. D.,
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The physical health of the parents at the time of conception controls the future of the child to a large degree. An old writer said "that distempered and unhealthy children could often be traced to family broils at the time of conception." Dr. Downs, in his late Lettsonian Lectures, states that the physical health of the parents at the time of conception can be traced in the child; also that when the parents are disturbed in health, and their relations broken up, unhealthy children will be the result,

Exact facts in this field are difficult to obtain, but often the circumstantial evidence points out facts beyond all doubt. Dr. Russ relates that the miners of Westphalia, who live away from their wives, are generally intoxicated when they come home on visits. The result is that a large proportion of the children born of these families are idiots and feeble-minded.

Galton has pointed out some very curious facts concerning the children of professional men, which indirectly relates to my topic. He found from a study of the heredity of the members of some of the largest scientific societies of London, that the legal profession presented the most eminent men and the fewest idiots. The medical profession came next, and lastly clergymen, who produced the smallest number of eminent men, and the largest number of idiots and feeble-minded. The lawyers gave origin to six times as many more eminent men as the clergy. The clergy gave origin to six times as many more idiots and feeble-minded as the lawyers.

This curious fact evidently applies to Europe, where the clergy do not represent the brain vigor of the educated classes. It also indicates that occupation at the time of conception, as well as physical vigor, has a power over the future of the child. In the study of the heredity of inebriates, many cases appear where the parents were greatly disturbed in health and their social relations on or about the time of the conception of the child, which grew up and became an inebriate, without any special exciting causes.

In the following cases inebriety was traced directly back to the parents at the time of conception. While it is not a new fact in science, it is not often so clearly traceable; usually intoxicated states in the parents appear in idiotic, feeble-minded or defective children.

In the *first case*, the father was a sea captain; a healthy, robust man, who never drank except on shore, and then in great moderation. His ship went to China and the South Seas, and was away twelve or fourteen months at a time. He married in middle life; and, on returning from a long voyage, would go to his country house and be intoxicated with his wife for a week or more on wines—then recover, and start away again. His wife would drink with him, and be partially intoxicated. Several children were born, all of whom died in infancy except one, a boy, who grew up and became a periodic drinker, and came under my care. He was a nervous, melancholy young man, who could not follow any steady work long, and every two or three months he would rush away to a low house and secure some female inmate, and drink in the room to continuous stupor for days, then become exhausted, have gastritis, call in a physician, and quickly recover—then go back to the shipping-house where he was employed, and exhibit great energy and industry for a long time. His mind was unstable, and he was credulous of all things outside of his business. If he became angry and excited, he would stagger and talk like a man drunken, his face would grow red, the pupils of the eyes dilate, and the lids swell, and he would be more or less stupid for a long time. The approach of the drink paroxysm was marked by great business activity and anxiety to help some one. Then suddenly he would find a woman, and go away and drink as before. His early life was uneventful. He was a good student, of quiet, retiring manners, and held up as a model for his companions. At puberty he suffered from a low, nervous fever, of several weeks' duration.

He lived in his uncle's family, and had the best society and most temperate surroundings, when suddenly one day he disappeared. A week later he was found in a brothel, where he had been intoxicated from the time he came in. He gave no reason why he did this, and seemed indifferent to all counsel and advice. For a year after, he was temperate and exemplary in every respect. Then he disappeared as before, and drank wine in a room to stupor for a week or more, then came back. Then from this time these drink paroxysms were noted by the great secretiveness to go where he could not be found, and also by his never drinking until he found such a place, and a woman to join him. He was twenty-five years old when he came under my care. Two months after admission he ran away, and was brought back before he drank. He went to bed, and was more or less stupid on small doses of bromide of ammonia for ten days, then recovered. He seemed very sensitive to ten-grain doses of bromide. The next paroxysm was anticipated, and he was in bed a week with a low nervous fever and stupor. These paroxysms grew further apart, and finally merged in severe headaches, which gave way to simple remedies. He became heir to a large property, and finally married and went West. In this case a most striking similarity was apparent between the drink paroxysms of his parents, which were marked by continuous use of wine to stupor for days in a room alone. In his case, beginning at puberty, it seemed to burst out as an inherited impulse, using the same spirits, and lasting about the same time. It was not apparent that he was licentious at any other time, or even when drinking; the presence of a woman seemed all he cared for. His unstable, weak, nervous organization, and these peculiar drink paroxysms, pointed to the state of his parents at the time of conception. How the periodical drink manias of the parents should so impress the child as to be reproduced, antagonized by the circumstances and surroundings of life, is a mystery. Why he should suddenly, and without premonition, go away and drink to great excess in a peculiarly unusual way for a boy, and ever after keep it up at intervals under the same circumstances, can only be answered from a study of the heredity.

In a *second case*, the father was temperate, the mother had drunk beer at meals all her life. After marriage, and for several days, both were intoxicated, and continuously under the influence of spirits, celebrating this event. Conception took place at this period.

A little fretful child appeared, which cried night and day for the first year. By accident, whisky was found to produce the most perfect relief. From this time nothing but some form of spirits would allay the nervous irritation, and as he grew older he would cry for it, and refuse to be satisfied with any other fluid. At ten he drank beer regularly every night, and at puberty he drank to great excess. I was consulted. In appearance he was feeble and imperfectly developed. His mind was uncertain and changeable; he said the taste and effects of spirits gave him the greatest pleasure. When he could not get spirits he was delirious, and after using two or three glasses he became stupid, and laughed at everything until he fell asleep. He was placed in the care of a physician, who tried to withdraw the use of spirits by reducing it from day to day. After the spirits were withdrawn, he developed mania and delusions of persecution, during which he escaped from control and drank to stupor. The mania disappeared; again the effort to break up the use of spirits was tried, the mania returned more violent than ever, and the spirits were resumed and continued up to death, at twenty years of age. Three other children were born to this couple, who were temperate and of average strength and vigor. The parents never used any spirits after the first year of marriage.

In the *third case*, a man was placed under my care who had occupied a very responsible position of trust, and who with an insane indifference had drunk to great excess, and forfeited all honor and respect. He was educated, and a man of talent and great energy. He was temperate up to forty years of age, when suddenly he drank to intoxication, and was seen on the streets shouting in a delirious way. In two or three days he became temperate, and seemed to have no regrets or sorrow for the past. He manifested no interest in the advice and counsel of his friends, and made no remarks of explanation, nor gave any reason for his conduct. Several months later he drank as before, and returned to his work with the same cool indifference as to his conduct and its consequence. He was forced to resign his position as officer of a bank, and gradually went down lower and lower, until brought to me. He drank periodically; the free interval being from three to eighteen months, the drink paroxysm lasting from three to six days. During this paroxysm he was maniacal, and reeled up and down the street, or was seen in an open carriage, always going where he was most prominent, and making

public speeches. He seemed possessed with delusions of power and grandeur, and placed himself in the most prominent places, interpreting the attention he received as evidence of his greatness. When he recovered he seemed to have a paralysis of all conception of the nature and character of his conduct. On all other matters he was clear and intelligent, but on this he was silent and reserved. He recovered, and went to the far west to live on a cattle ranch. In his history it appeared that his father, who was a temperate, healthy planter, married for the first time at forty. Soon after he drank to great excess, and was after this a periodical drinker until his death ten years later. His son, mentioned above, was conceived in one of these early drink paroxysms. The father was delirious at these times, and spent his time on the street and in prominent places, preaching and lecturing in a maudlin way. When he recovered he was strangely oblivious to any past conduct; said he did not remember or believe he was intoxicated. The later years of his life, he was very angry if talked to about drinking, and would not listen to any counsel or believe he drank to his injury. This drink storm always came on suddenly, and passed away after a short time, leaving the mind in a blank state of confused recollection of what he had done. In the case of the son, he seemed to have no realization that he had done anything strange or unusual, and listened with doubt and indifference to all that was said. The remarkable similarity of the symptoms of father and son, coming on at the same time of life, and following periodically, noted by delusions of power and grandeur, and desire to appear prominent, and the loss of consciousness of the past, or its relation to the present, in his own case, seem to indicate a direct heredity from father to son. These cases are sufficient to call renewed attention to this subject, and throw light on many of those unexpected outbreaks of inebriety that are a source of wonderment. Inebriety will always be a confused field of speculation, until it is made a special study by physicians.

ANOTHER CASE OF PERFORATION OF THE VERMIFORM APPENDIX.

BY J. M^F. GASTON, M. D.,
Of Atlanta, Ga.

This contribution to the history of a lesion which ordinarily is not recognized in time to operate successfully, may aid to some extent in elucidating the obscurity connected with a

differential diagnosis of the grave condition. The different phases of typhlitis, perityphlitis, and paratyphlitis, in the outset, correspond so nearly to the local phenomena associated with the initiatory stage of the inflammation preceding and accompanying perforation, that close attention to all the details of its development is of the utmost importance. It is evident from the comparative frequency of the cases reported latterly, that this accident has heretofore escaped observation, when peritonitis has supervened without resorting to operative measures, and terminated fatally, without any post-mortem examination. The symptoms which are associated with acute typhlitis correspond in most respects to those of perforation of the vermiform appendix, and the usual progress of the former being attended with more or less diffused inflammation, it is a difficult point to determine what may be the nature of the local trouble until the constitutional disorder has reached such an aggravated form as to preclude any expectation of relief by laparotomy.

The case now presented occurred in the practice of Dr. T. D. Lougins, who has kindly furnished me the following notes of his observations previous to my visit:

"I saw Johnny Caldwell, aged 13, February 28, at 7 p. m. Found him suffering with severe pain in right side of abdomen, located more particularly in right umbilical region. Thought I detected slight swelling at this point. I got following history: About twelve o'clock that day, while at school, ate raw potato. Came home at 2 p. m., complaining of pain in side, also of being very hungry, though ate very little and vomited soon after. Pain increased till I saw him. I administered morphia every fifteen minutes in one-eighth grain doses till one-half grain was taken. He then became easy. Left two grains calomel to be given at 12 o'clock, also one-quarter grain morphia to be given during night if pain returned, which was done. March 1, rested badly. No action from bowels; vomiting occasionally. Ordered four grains of calomel in two doses, to be given two hours apart. Bowels moved about 11 o'clock twice, discharging the potato inan undigested state. Pain continuing, ordered dose of castor oil, which was retained four hours and vomited up. Gave an enema, which passed off immediately, with no fecal matter, producing violent pain in testicle, which was relieved by applying hot cloth. Gave morphia during night. March 2, rested badly. Some fever and pain. Gave tr. aconite and morphia during day and night, until better. March

3, no action; pain less; more fever; anxious look; bowels very much swollen and tympanitic; much weakness; mother had given dose of salts before I saw him that morning; no vomiting. I thought the only chance was in an operation. Called in Drs. Bennett, Olmsted, and Crow, who agreed with me. We called Dr. Gaston.

Upon receiving substantially the foregoing account of the case, with a statement from the mother of the patient that very little of the fluid used for the enema was retained, and that he complained of pain in attempting to force it into the rectum, I was induced to make an exploration per anum. When the index finger passed within the sphincter the rectum was found to be enormously dilated, and to be occupied above by a protrusion of the large intestine, leading to the inference that there was an invagination of the lower bowel, and not simply a prolapse of the intestine. Moderate force with the finger did not succeed in returning it, and upon attempting to pass the point of my index finger within the canal I was unable even to verify the site of the opening. Each of my four colleagues was requested to make this exploration, and they all concurred in the view that the mass which was felt in the rectum was a protrusion of the large intestine. Upon consultation, it was determined to bring hydrostatic pressure to bear upon it, with the expectation of uniting the bowel to its proper relations; and the boy being placed in the knee-chest position, warm soap water, with a little salt and spirits of turpentine, was injected with a Davidson syringe, while the margin of the anus was secured with the fingers closely around the tube. After a time a portion of the fluid regurgitated, but the effort was eventually successful in replacing the protrusion. This was very evident to Dr. Olmsted and myself on examination.

Supposing that the symptoms indicating an extension of inflammation throughout the cavity of the abdomen might have resulted from constriction of the sigmoid flexure of the colon, which had become invaginated and passed into the rectum, we were now encouraged to hope for relief by the release of this portion of the large intestine; but it was understood that Dr. Longino, who remained in charge of the patient for the night, should advise the rest of us at daylight next morning of the condition of the patient. Not receiving any message before sunrise, I telephoned a neighbor of the family, and learned that the patient had died at 3 o'clock a. m.

It occurred to me as very desirable to get such elucidation of the obscure points in this case as would be afforded by an autopsy; and after overcoming the obstacles in our way, the post-mortem was made by Dr. Crow and myself, with the presence of all the physicians who were in attendance on the previous evening. The first step was to verify that the bowel had not descended again into the rectum, by a digital examination per anum; and after opening the abdominal wall by a careful inspection of the descending colon and sigmoid flexure, even extending to the rectum, it was very perceptible that the lower portion of the bowel had become inflamed and somewhat thickened by the previous constriction from which it was freed.

Upon turning our attention to the condition of the abdominal viscera, adhesions were found between the great omentum and the small intestines, with their mesenteric attachment agglutinated to the coils that were superimposed. To the right of the median line the peritoneal surfaces of the viscera and parietal wall were adherent, so as to require a forcible separation. Upon carrying the exploration into the ilio-cæcal region, an effusion of a sero-purulent dirty fluid was encountered which penetrated upward along the ascending colon to its curvature, and was confined by adhesions in front of the colon to this locality. The tissues surrounding this collection were thickened and almost necrosed, and the gall bladder was distended so that it reached downward to some distance below the margin of the liver, and was in contact with the upper boundary of this foul accumulation of decomposed matter. Upon a minute examination of the small intestines, commencing at the ilio-cæcal attachment and passing the fingers along every portion, nothing unusual was discovered, until within a few inches of the duodenum it was found to be held down by a band, and above this constriction the duodenum presented signs of inflammatory engorgement and thickening of its walls, which, however, did not seem to involve the pylorus. The liver presented an increase in the size of the left lobe, extending across the epigastric region.

Turning again to the ilio-cæcal region, the vermiform appendage was found enlarged, and with a dark-red hue throughout its entire length, being straitened out in a right line from the cæcum. About midway between its attachment and the end there was a perforation, caused by the sharp point of an ovoidal fecal concretion, about $\frac{1}{2}$ inch in diameter and $\frac{1}{4}$ of an inch long, which was forced out of the cavity by the fingers

through the opening. There had evidently been an escape of the contents into the peritoneum for some days, so as to have caused the extension of its septic influence to such a distance, and the peritonitis was an effect of the local irritation from its pressure.

The question which naturally presents itself in connection with the history of this case, and the developments of the autopsy, as to the indications for laparotomy, is that, if warranted by the symptoms at any stage of its progress, whether an operation could have been resorted to with any prospects of success after the tenderness and meteorism led to the conviction that general peritonitis existed.

At the time I first saw the patient, it is clear that laparotomy could not have averted the fatal result, and it was a subject of congratulation that no operation was undertaken. But the issue must be squarely met by surgeons, as to the diagnosis of such perforations at an early period, and the practicability of removing the appendix and suturing its cæcal attachment, with thorough antiseptic treatment of the adjacent tissues; and this report may aid in solving that problem.

MEDICAL SOCIETIES.

THE NEW YORK NEUROLOGICAL SOCIETY.

Stated meeting, April 5, 1887.

The President, C. L. Dana, M. D., in the chair.

Report of a Case of Sarcoma of the Brain (Occipital Lobe) Causing Hemianopsia, Removed by Operation.

By Dr. W. R. Birdsall and Dr. R. F. Weir.

Dr. Birdsall gave the history of the case, of which the following is an abstract: The patient, a Hebrew, aged 42, first came under his observation October 16, 1886. He had always been healthy until the summer of 1885. He denied injury to the head, or venereal disease. In August, 1885, he observed for the first time unsteadiness of gait, and had a severe attack of vomiting. Soon after diplopia for distance and increased awkwardness in walking was observed; also a disagreeable sensation akin to numbness, in the right leg, hand, and shoulder, but not in the face. This and the diplopia were transitory. Headache, usually frontal, was present occasionally, but never severe. October 7, 1885, he consulted Dr. E. C. Seguin.

who found the eye-muscles normal (no diplopia with red glass). Left pupil a trifle wider than right; both active; fundus normal. Left lateral hemianopsia, vertical line passing little to left of fixation point. No paresis of tongue, face, or limbs; no anæsthesia; patella reflex normal; walk somewhat staggering, with decided tendency to the right.

October 20, diplopia had recurred; left externus weak; hemianopsia the same; no hemiopic pupillary reaction. Grasp of right 42°, left 30°.

November 7, beginning neuro-retinitis. Drowsiness during the day. Difficulty in rising from chair.

Diagnosis.—Tumor of mesal aspect of right occipital lobe, involving primarily the cuneus, extending downward toward the tentorium cerebelli, and perhaps also upward toward the para-central lobule (leg centre).

Treatment.—Large increasing doses of potassium iodide.

From January to July, 1886, patient under care of late Dr. McBride. During the early months of this period his diplopia disappeared, and never returned; his gait improved somewhat, but had two attacks on street, feeling he could proceed no further, and staggered toward the left. From September on, his difficulty in rising, standing, and walking together with drowsiness, rapidly increased. In October, 1886, Dr. Birdsall found double optic neuritis, most marked in left eye; left pupil somewhat larger than right; no diplopia; no ocular paresis present. His movements were clumsy rather than ataxic; at times being accurate, at others wide of the mark, especially in left extremities; gait slow and uncertain. There was frequent expectoration of a viscid saliva. Left hemianopsia, Dr. Birdsall thought, could be accounted for only by a destructive lesion in the neighborhood of the gyrus cuneus of the right occipital lobe. The locomotory disturbances appeared to him to be due to pressure effects of a tumor or structures below the tentorium, thus implying a growth of considerable size. His disturbance of equilibrium continued to increase in a very irregular manner. His intellect was not impaired. His family observed no change in his character or disposition. He was extremely uncomfortable mentally. An operation was proposed in February, 1887.

The operation was performed by Dr. Weir. Regarding the tumor Dr. Birdsall said it was of so large size, so much of the occipital lobe was compressed by it, that the case was of

little value for determining the limitation of the visual area in the occipital lobe. The growth was a sarcoma, originating in the meningeal structures, producing destruction of the cerebral tissues by pressure alone. Absence of severe headache should be noted, as it is usually a prominent symptom of tumors involving the meninges. One of the most important lessons that the study of cerebral tumors taught was that growths remaining limited to the meninges may attain a large size before disturbing the functions of neighboring parts of the brain. In these cases regions away from the tumor may give signs of importance before those in contact with the tumor. The extreme fatality of intracranial neoplasms was high warrant for taking an extreme surgical risk. The co-operation of neurological science and surgical art in the present state of each could hardly fail to build up an experience which would in some cases save life that would otherwise be lost.

Dr. Weir described the operation, which was performed March 9, 1887. Special antiseptic precautions prior to and during the operation were taken. The periosteum was raised, two openings were made with the trephine, the first one an inch above the occipital protuberance, and the same distance from the median line, the other immediately above; the openings were joined, and enlarged by the Rongeur forceps to two and three-fourths inches by two and one-fourth inches. The dura mater divided two-thirds the extent of the bone opening, its retained attachment being toward the median line. The tumor has at once recognized, and enucleated. It was necessary on account of its large size to incise it and press out some of its substance before it could be completely detached and removed through the opening. A great deal of venous bleeding took place, and sponges were stuffed in for temporary pressure; the cavity was inspected by the electric light, and showed that a great amount of pressure had been exerted upon the brain; the falx was crowded to the left of the median line; the tentorium was depressed to a horizontal line. The tumor weighed five and a fourth ounces. It measured three and a fourth by two and three-fourths by two and one half inches. One of the bleeding points was found to be in the region of the straight sinus, not free enough to be from that vein, but probably from the pedicle of the tumor; the other, apparently arterial, probably from a terminal branch of the posterior cerebral artery. The flow from each was readily checked by direct pressure, and it was de-

termined to control them by packing the cavity with iodoform gauze. The dura mater was partly united over the gauze by loose sutures. The operation was well borne until the final enucleation of the tumor, when the pulse fell, apparently from loss of blood. Some hours afterward slight diverging strabismus of the left eye was noticed; blood stain appeared through the dressings; the pulse was weak; stimulants were given; the patient was restless. At night transfusion of a saline solution was made with temporary improvement, and the dressings were removed to control hemorrhage which was seen to be taking place in a small stream; but the pulse again gave out, and nothing further could be done than reapply pressure in the supposed direction of hemorrhage. Death occurred at 2 a. m. An autopsy was not allowed, but in the lower part of the brain cavity was seen a large collection of coagulated blood.

Dr. Weir said that in another case, where the hemorrhage was from vessels too deeply situated to apply a ligature, he would control it by leaving on clamp forceps to be removed after a period of 24 or 48 hours. The opening, although large, was not sufficiently large to enable him to remove the tumor entire. It was intended to adopt Macewen's method, and employ bone drafts. Dr. Weir had recently replaced the pieces of bone removed by the trephine in a case of epilepsy, the opening being nearly two and a half by three inches; and now, about seven weeks after the operation, the wounds had healed save one, and the bones were felt to be solid, and were painless. Brief reference to the cases of tumors of the brain for which operations had been performed was made.

Report of a Case of Cyst of the Brain, with Operation.

Dr. Graeme M. Hammond related the case. The patient, a married woman, complained of severe pain an inch above the right ear, and had left hemiplegia. At the time her symptoms began she was about 29 years of age; she had had four children; during the progress of her disease she had a fifth child. All were strong and well. Her sickness lasted about two years and a half. It commenced by sudden loss of consciousness, and convulsions limited to the left side. The left side of the face became, and remained, paralyzed. About a year later she noticed gradual loss of power in the left arm; things dropped from the hand. At the end of another year the left arm was completely paralyzed. She then noticed increasing weakness in the left leg. When Dr. Ham-

mond first saw her she was able to stand and walk slowly. While the paralysis was extending she had four or five epileptic seizures, confined to the left side. Headache developed about the time the legs became affected, grew more constant, and was described as agonizing.

She denied syphilis. Physical examination showed loss of motion on the left side of the face, tongue, and soft velum, of the left arm, and partial loss of motion in the left leg. There was no disturbance of sensibility of any kind. The reflexes were exaggerated on both sides. Sight, hearing, smell, and taste were normal. Choke disc on both sides was observed at a subsequent examination.

Under treatment the headache was controlled to a considerable extent. Dr. Hammond's diagnosis was probable cerebral tumor, involving the cortical or sub-cortical substance of the motor centres. An operation was refused. The patient grew worse until the 20th of March, 1887, when her husband asked that the operation be performed. Dr. Spitzka then saw the patient with him, and made two examinations. He rather coincided in the diagnosis. The operation was performed in the hospital last Wednesday. Dr. H. Josiah Roberts assisted at the operation, removing the portion of skull by his electro-osteotome. Four buttons were removed by the electro-trephine; these were connected by straight lines made with the circular saw. The diameter of the opening was over two inches. A crucial incision was made through the dura. A hypodermic needle was introduced in different directions, but no fluid was withdrawn. The dura was closed, a drainage tube was introduced, the skin flaps were sewed up, the patient was put to bed. She lived only twenty-four hours, remaining unconscious after the operation. Prior to the operation she had become completely paralyzed in the left lower limb, she had delusions and hallucinations, she talked incoherently; bed sores developed.

The autopsy showed little hernial protrusion at the wound; the cortical substance here was thin. Incision through the motor region revealed three cysts in a line, deep in the white substance. The fluid in the cysts had been only partially examined; it was serum, and contained broken-down brain substance. The cysts were close together, and in a position to affect the face, arm, and leg centres. He could not explain why the syringe failed to bring forth fluid, unless it was that the cysts were too deeply striated or the needle passed between them. He added

to the clinical history that the head was drawn to the right side the last three days of life.

Dr. E. C. Seguin was partly responsible for the operation in the first case, but it seemed the patient would not live more than two or three months without it. He expected to find a large tumor, but was somewhat surprised to see it encapsulated and non-parenchymatous. During the early history of the case the symptoms pointed to destruction of brain-tissue. He asked Dr. Hammond whether the sensory or motor symptoms determined the seat of his operation.

Dr. Hammond replied that the headache corresponded to the centres for the motor symptoms, and the seat of the operation.

Dr. Seguin added that the seat of the pain would be a very uncertain indication for the seat of the operation. In some cases of cerebellar tumor, for instance, the pain had been mostly frontal.

Dr. E. C. Spitzka, referring to the case reported by Dr. Birdsall and Dr. Weir, said that an artery large enough to cause fatal hemorrhage entered the gray and white substance of the right occipital lobe. It had been overlooked in many text-books.

Dr. Roberts explained how the circular saw could be used without injury to the brain, and the operation of the electro-osteotome.

Dr. Starr suggested the desirability of an analysis of reported cases of cerebral tumors for the purpose of determining their rapidity of growth and size.

Dr. R. L. Parsons read a paper entitled *Nomenclature in Psychiatry: Monomania or Oligomania, Which? Paranoia, What?*

An examination of the reports of fifty-one asylums for the insane, taken at random, showed that of the whole number of patients enumerated less than two per cent. were classified as cases of monomania, while in twenty-four of these reports the term did not appear. But, however much systematic writers on the subject of insanity deprecated the use of the term monomania, they rarely succeeded. There were manifestations of insanity which were neither melancholia nor dementia, but which differed so much from mania that another designation was required for them, and the objectionable term monomania was the only one generally employed. Dr. Parsons thought a suitable substitute could be found. Paranoia had been used to a considerable extent, but if the meaning of the term monomania was too narrow for the

purpose required, that of paranoia was too broad. "In conclusion, then, with the assumption that monomania, as defined and explained by certain writers on psychiatry, designates phases of insanity of sufficient importance and well enough differentiated to require a place in the general classification of mental diseases; and with the further assumption that the reasons adduced in this paper are sufficient to justify the substitution of the term oligomania for monomania, it only remains to apply the proper meaning of the latter term to the former, to wit: A form of insanity which, although potentially affecting all the mental faculties and operations, apparently involves only a part, as the intellect, the emotions, or the will, or certain manifestations only of a faculty of the mind, which originates in the intellectual faculties rather than in the feelings, and the manifestations of which are well-defined, persistent, dominant, and systematic in character."

THE CLINICAL SOCIETY OF MARYLAND.

Stated meeting, held March 18, 1887.

The 190th meeting was called to order by the president, Randolph Winslow, M. D., in the chair.

Dr. A. Friedenwald exhibited a specimen and related a case of

Osteo-Sarcoma at the Base of the Skull.

The patient was a female, *æt.* 57 years, who had never borne children. She came under his care August 27, 1884, complaining of great pain in the head, which had troubled her for two months previously. Left side of the face was congested. Impairment of vision for two weeks. Partial ptosis of both eyes, more marked in left than right. Divergent paralytic strabismus in both eyes; pupils of normal size; no reaction of pupil in right eye; in left eye contracted slightly on admission of bright light. Had vertigo about one year ago. Unsteadiness of gait. Ophthalmoscope showed atrophy of the optic nerve in right eye. Pallor of disk and slight attenuation of vessels in left eye. Diagnosis of tumor at base of brain. He had the patient under observation till March, 1885. Muscular movements restored in right eye. Only partially so in the left. About this time a polypus presented itself in the left nares, which was removed. Shortly after this the superior maxillary and malar bone became hypertrophied. The sense of smell was the first of the special senses affected. Diagnosis

was then made of tumor at the base of the skull. Autopsy showed a large tumor situated outside of the dura mater, within the skull. It involved the left half of the cribriform plate and the posterior parts of both fossæ. The tumor closely encircled the optic nerves and the nerves of the middle fossæ. It extended downward, through all of the bones which it covered, entirely absorbing them and leaving minute osseous granules throughout the tumor. It extended into both the nasal and orbital cavities. Microscopical examination showed the tumor to be a sarcoma.

DISCUSSION.

Dr. John Chambers said that he had once observed a case similar to the one reported by Dr. Friedenwald. The patient was about 22 years of age. He had suffered greatly with facial neuralgia, which finally subsided. The muscles became atrophied and were drawn to one side. Swallowing was very difficult. Autopsy showed the presence of an osteo-sarcoma, of the spindle-cell form, which occupied the wing of the sphenoid bone. The fifth nerve was incorporated in the growth.

Dr. L. McLane Tiffany related a most interesting case of

Nephrolithotomy.

The patient was a female, aged 25 years, and in the third month of pregnancy, upon whom he had performed successfully the operation of nephrolithotomy.

DISCUSSION.

Dr. John Chambers asked Dr. Tiffany if the patient had been subject to renal colic.

Dr. Tiffany replied that there was history of pain in the loin, but none of any calculus having passed. So the pain was attributed to the presence of stone in the kidney.

Dr. R. Winslow asked if there was any swelling in the side of the patient.

Dr. Tiffany replied that an examination was made under chloroform, and no enlargement of any kind was revealed.

Dr. S. T. Earle read a paper entitled

Two Cases of Tetanic Convulsions from Muriate of Cocaine.*

DISCUSSION.

Dr. R. Winslow asked Dr. Earle the size of the dose of the drug used.

Dr. Earle replied that two grains were used in the first case and five in the second.

Dr. I. E. Atkinson said a case had been reported where tetanic symptoms followed when only one grain had been given. A

* See Maryland Medical Journal, March 12, 1887.

German author had also reported a case where these symptoms followed its use. In both cases the drug was administered hypodermically. He thought these tetanic convulsions evidently belonged to the toxic effects of cocaine.

Dr. A. Bond asked Dr. Earle if there was any difference in the preparations of the drug used? and if he thought the location where he administered it had any influence on its action?

Dr. Earle replied that the preparations used were exactly the same. He did not think the location had anything to do with it. He gave it hypodermically into the connective tissue around the arms. In referring to the remarks of Dr. Atkinson, he said that he was always on the lookout for the toxic effects of cocaine whenever he gave it. As much as 40 grains had been given without bad results; but as these symptoms do occur, it is well for us to vary the dose in individual cases, a fact which he always observes.

Dr. G. Rohé had removed several wens from the head of two patients, mother and daughter, under the influence of cocaine. The mother did not feel the cutting at all, but had fainting symptoms to come on. He thought it due to the fact that the mother was probably more emotional than the daughter.

Dr. R. Winslow had seen a similar case where fainting symptoms were produced in a patient not all emotional.

Dr. John Chambers had once seen a man in a very emotional state from one grain given hypodermically. He tried a two-grain solution locally on his own gums for the purpose of having a tooth drawn, and it produced very peculiar symptoms about his legs. As the dose seems so uncertain, he asked if it is not safer to use ether or chloroform? They are less dangerous, as comparative statistics seem to show.

Dr. Earle said by experience he finds that he can get along with much smaller doses.

Dr. Winslow asked Dr. Gorgas if cocaine was used to any extent in dentistry?

Dr. Gorgas replied that his father had employed it both locally and injected into the gums, but it did no good.

Dr. Atkinson said hypodermic injections of cocaine for minor operations on the skin can be done very satisfactorily. He related a case where he had scraped an epithelioma of the face and the patient did not feel the slightest pain. He would not feel like discarding it from use.

Dr. W. H. Norris had often used cocaine

very satisfactorily. In one case, a female, he introduced a catheter without the slightest pain, where it was impossible to do so before the drug was used. He did not think that fainting symptoms were always due to cocaine. He had observed them where none of it was used.

Dr. Rohé has used it on the surface of the skin for electrolysis, in five per cent. solution. Some modification of sensation was produced, though slight. Epithelium of the skin seems to prevent absorption. He had used injections for scrofuloderma, and did not get good results. Thought it due to the fact that he injected it into the tumor substance instead of around it.

Dr. Craighill thought the temperament of the patient should be considered. He had a patient to faint in his office while percussing his chest for examination for life insurance.

Dr. Samuel Theobald had obtained good results on the skin from injections of cocaine. He had had two patients upon whom he operated for cleft nose with good results. He also had used it on the eyelids with satisfaction.

Dr. Winslow asked Dr. B. B. Browne if he had ever used cocaine in the vomiting of pregnancy.

Dr. Browne replied "Yes," and in other forms of nausea very satisfactorily. He gave it in the dose of ten drops of a 2 per cent. solution.

A New Probe.

Dr. Samuel Theobald then described a probe, which he now uses, made of aluminium. It has the advantage over silver of being lighter and more slippery. He related a case of stricture of the nasal duct in a patient who lived in the country, and who could only come to see him occasionally. Each time she came the duct would be closed. He taught her to use the probe herself, which she does with ease, and she is now nearly well. Patients must be kept under observation in order to bring about cure.

Concussion of the Spinal Cord.

Dr. R. M. Hall related the case of a man, driver, who had jumped from a wagon with 75 pounds of glass in his arms. It produced great pain in the lower extremities. When he first saw him, patient was stiff from the abdomen down; no nausea. He administered an anodyne to him. The next day pain still great, and manipulation produced intense pain below Poupart's ligament on the right side. The day following the left leg moved with ease; right still stiff. He con-

tinued to grow better on anodynes. He made a diagnosis of concussion of the spinal cord, and asked the opinion of the members of the Society in regard to it.

DISCUSSION.

Dr. I. E. Atkinson said that judging from the description Dr. Hall had given of the case, he thought the diagnosis was correct.

EDITORIAL DEPARTMENT.

PERISCOPE.

On a New Acid found in Human Urine which Darkens with Alkalies.

Dr. Robert Kirk thus writes in the *Brit. Med. Jour.*:

About two years ago I met with a family of which three members had, from their infancy, passed urine giving the reaction of Bödecker's alcapton (*Annal. der Chem. und Pharm.*, cxvii., or New Series, xli., 98), assuming a dark color and greedily absorbing oxygen when rendered alkaline. All were boys, one of whom had died of whooping-cough, at three years of age; of the remaining two, one was a lad of 8 years, and the other an infant. The only other member of the family was a boy 10 years old, whose urine was quite free from the peculiarity which that of the others presented. Both parents were healthy, and their urine was found quite normal; but there was a history of jaundice and biliousness on both sides. The baby was large and apparently robust; the other two, however, had always been more delicate than their eldest brother, whose urine appeared to have been always normal. The most noteworthy symptom about the two who passed the peculiar urine was very frequent but painless micturition, which was also recorded in Ebstein and Müller's case (*Virch. Archiv.*, lxii., 554). The majority of the cases already published have been in children: I learned from Dr. Armstrong, of Dublin, in whose practice the last of these occurred, the interesting fact that another child of the same parents, since born, voids the same kind of urine. A comparison of some points in the present case, with those previously recorded, would be of interest, but cannot be attempted in this brief paper; neither can I do more than mention the investigations of Bödecker, Ebstein and Müller, and, lastly, of Dr. Smith, of Dublin (*Dublin Med. Jour.*, vol. ii., 1882, p. 465), the latter of whom examined the urine in Dr. Armstrong's case. In all these instances the urine was characterized by the same general reactions.

I commenced an investigation of the urine

in the present cases in 1884, and had often the coöperation of the Rev. Mr. Gibson, of Partick, who is well versed in practical chemistry. The urine presented the following general characters. When rendered alkaline it assumed such a dark-red color that it required dilution with several volumes of water before it became translucent. On one occasion 10 cubic centimètres of it, of specific gravity 1014, when alkalinized, absorbed 7.8 cubic centimètres of pure oxygen over mercury; another sample of specific gravity 1019, absorbed 10.2 cubic centimètres of oxygen. It always reduced the copper test, its action on it corresponding to that of 8 or 10 grains of sugar to the ounce, as estimated by Dr. Pavy's ammonio-cupric method. It was either pale, almost like water, or of a peculiar brown tint, and never of the color of normal urine. The amount of urea was never in proportion to the specific gravity. The result of one determination with the ureometer was 1.26 per cent (specific gravity 1016); of another, 1.4 per cent. (specific gravity 1019); of a third, 1.68 per cent. (specific gravity 1028). The uric acid was estimated roughly a few times by hydrochloric acid, and seemed little more than a trace. Judging from the color of the urine the urobilin seemed to be nearly altogether absent, and the quantity of indican was never found to be above the normal. The urine was always free from albumen and sugar, being entirely without action on Lowe's bismuth solution. In all these points our urine corresponds closely with what has been recorded of previous cases.

In our first attempts to isolate the body which communicates the characteristic reactions to this kind of urine, we repeated all the experiments of Ebstein and Müller, and found that we could obtain essentially the same results. We found further, however, that our urine, and the substance we obtained from it after their method, presented those characters which identified it, as pointed out by Professor Smith on the authority of Preusse, with protocatechuic acid, and distinguished it from pyrocatechin, and which led Professor Smith to conclude that he had

found the former of these in his case. These were, that in alkaline solution it was insoluble in ether; that it did not pass over with watery vapor when distilled in an atmosphere of carbonic acid; and that it gave a green color with ferric chloride, which turned dark red on the addition of ammonia. Nevertheless, we could not rest satisfied with the result, although convinced that we had the same body to deal with. A few points suggested doubt, and the necessity for further inquiry. Ebstein and Müller state that their pyrocatechin gave first a green, and then a brown color with alkalis; and that, on shaking up the urine with ether, a little of the pyrocatechin passed into the latter. Now, our urine never gave a green, but on shaking up with ether we obtained a product which gave a very distinct green with alkalis before becoming brownish red. Here was a difference which called for explanation. Again, we could hardly regard the green color with ferric chloride satisfactory proof of the presence of protocatechuic acid; it was but a pale grass-green, difficult to catch, and readily disappearing in excess or with agitation. The urine in Professor Smith's case, moreover, had been analyzed by Professor Tichborne, who noted an action on the sugar test corresponding to eight grains of sugar to the ounce, and who did not fail to remark the small amount of urea in proportion to the specific gravity, namely, 1.2 per cent. with specific gravity 1025. Protocatechuic acid has no action on Fehling's solution; and it must be pointed out, as a defect in Dr. Smith's investigation, that he did not put this to the proof with the isolated product of his analysis. Further, the same urine was subjected to a spectroscopic examination by Professor Hartley, who came to the conclusion that the amount of protocatechuic acid in it was about 1 in 10,000, and certainly not more than 1 in 5,000. Such results furnished no explanation of the chief peculiarities of the urine, and, if correct, the subject was of little interest, scarcely calculated even to excite scientific curiosity.

Accordingly, we procured a specimen of pyrocatechin from Germany, and prepared some pure protocatechuic acid, from East Indian kino, according to the directions of Stenhouse, in Watt's *Dictionary*. We at once felt certain that we had a different substance to deal with, in our urine at all events, from either of these. Protocatechuic acid gave only a trifling brown color with alkalis, had no action on the copper test, and struck an intense deep green with ferric chloride in every proportion. We therefore

cast about for another method of isolating the peculiar body in the urine in these cases, and at last hit upon one so simple and obvious, that the only wonder is it did not occur to previous inquirers, or earlier to ourselves.

This consisted in acidulating with hydrochloric acid, and shaking up with ether. By this process, an acid was at once set free, which proved nearly equally soluble in water and ether, and the behavior of which clearly showed it to be the immediate object of our search. It existed in large amount in the urine, and we found it could be extracted in abundance; from less than a week's urine we obtained from 200 to 300 grains of this acid. In doing so, we proceeded as follows: The urine was concentrated to a tenth or less, and was then washed with several volumes of ether to remove gummy and resinous bodies, which interfere with crystallization. Amongst the substances so removed was a yellow body, which also appeared to be peculiar to this kind of urine. The ether and the concentrated urine were next separated from each other, and the latter acidulated with dilute hydrochloric acid (one-half per cent. of the anhydrous acid to the original amount of urine). The urine was again shaken up with ether, when the new compound passed freely into it, communicating to it, at the same time, a yellow color, and from which it was afterwards deposited in a crystalline form.

Crystals could also be obtained without previous washing with ether, but of course mixed with some impurity. It was found that, if we acidulated and set free the acid before concentration, we could not afterwards obtain it by the ether, but only a product resulting from its decomposition. In this behavior, it resembles an acid which Schmiedeberg and Meyer obtained from the urine of dogs to which camphor had been administered, and to which they have given the name of glycuronic acid (*Zeitschr. für Physiol. Chem.*, B. iii., S. 422). If the acid were not liberated in the first instance, however, the urine might even be boiled down without producing any change in it. Another curious fact may here be noted. If the urine were acidulated and then shaken up with ether while still somewhat warm, much of the acid passed into a gelatinous state, and the whole tube might thus be filled with a jelly-like mass. This was also more readily produced by using large amounts of hydrochloric acid, and more strikingly still by the use of sulphuric acid. It was found that the acid might also be set free by acetic acid, but this required some time to act. This decomposi-

tion of the new acid during the evaporation of its watery solutions explains the failure of previous attempts to isolate it by precipitating first with neutral and then with basic lead acetate; decomposing the second precipitate by hydrosulphuric acid, and subsequently evaporating down. If, before, the latter procedure, we shook up with ether, we found that we could obtain the same crystals as by the other method, but in small amount, and not so pure.

The crystals formed on the evaporation of the ether assumed the form of large stellate groups, and sometimes also of sheaf-like bundles. On another and deeper watch-glass, they took the form of long thin prisms, with oblique ends. They possessed a strong aromatic odor, and a brown color, although in mass they seemed almost black, with shining colorless points or needles scattered here and there. They were very soluble in water and ether, but rather more so in the former, and the solutions were of a yellow color, becoming red, however, when sufficiently concentrated. We have not been able to identify this acid with any known to us, or of which we can find an account; and we would propose to call it, from its source and from its color, *urrhodinic acid*.

The crystals of urrhodinic acid thus obtained seemed tolerably pure; we could not detect any hippuric acid or other body amongst them, and a special search for the latter acid in the urine showed that it did not occur, if at all, in anything beyond mere traces. Three independent calculations proved that the urine contained one-half per cent., or a little more, of this new acid. A solution of this strength gave a reduction of the copper-test about the same as an equal quantity of the fresh urine, and produced the same depth of color with alkalies. In these two observations, the crystals had only been dried in the air, and still retained some moisture, so that the results must have been under and not over the mark. The amount of oxygen absorbed by 10 cubic centimetres of a half per cent. solution, in an alkaline condition, of crystals which had been dried over sulphuric acid, was found to be 8.2 cubic centimetres. Now the urine, of specific gravity 1019, had absorbed 10.2 cubic centimetres of oxygen, and therefore contained more than one-half per cent. of the urrhodinic acid. From the foregoing results, it will be seen that the acid has a reducing action on the copper-test about five times greater than an equal quantity of glucose, and this point was made the subject of a number of very careful determinations.

The crystals of urrhodinic acid were further characterized by the following properties and reactions:

1. In solution, they showed a decided acid reaction to test-paper, and gave all the reducing actions of Bodeker's alcapton and Ebstein and Müller's pyrocatechin, and which need not be here detailed.

2. When exposed to the air on watch-glasses, they absorbed moisture, and became viscid, but did not apparently undergo any further change. On recrystallizing from ether, however, after some lapse of time, the crystals were found to be yellower than before, and probably some alteration had been induced by the water they had absorbed. In watery solution, they spontaneously decomposed, gradually in the cold, but more rapidly if boiled, depositing a dark powder, and leaving still something in solution, which was unaffected by further boiling, which did not crystallize, or only very imperfectly, and which still exercised a marked action on the alkaline cupric oxide solution. The dark powder was insoluble in water, alcohol, and ether, but dissolved in alkalies, and turned the copper solution green, but without reduction.

3. An ethereal solution, so strong as to have a bright red color, did not appear to undergo any change, though exposed to light for months; but, on evaporating the ether, crystals were not deposited as before, but an amorphous mass, apparently a mixture of a yellow and a brown substance. The latter only was now found to be affected like the original acid by alkalies; and, after being made alkaline, the yellow could be readily removed by ether. It was deposited in little yellow masses, and radiating lines with a remarkably silky appearance, and of a beautiful canary-yellow. This body, which for convenience we may call *serixanthin* (*σῆρικας*, silken), was neutral in reaction; very soluble in ether, but more sparingly in water; was unaffected by alkalies, and had no action on Fehling's solution beyond turning it green. The brown has not yet been obtained apart from the yellow; the solution of both together was more yellow than that of the original acid, was of acid reaction, darkened as before with alkalies, and reduced cupric oxide.

4. The crystals formed somewhat pasty cakes when left on watch glasses exposed to the air; over sulphuric acid these became thin scaly plates of a brown color, but with glistening points scattered over the surface. When pulverized in a dry mortar, a dull, earthy-looking powder was formed, and this

melted at 180–185° Fahr. (82–85° Cent.) to a dark, viscid, treacly, almost tarry mass, evolving at the same time a faecal odor. The mass boiled about 260° Fahr. (126.6° Cent.) and boiled steadily for some time at 264° Fahr. (128.8° Cent.). It then fell gradually, still boiling, to 248° Fahr. (120 Cent.), after which it rose again, and on continuing the application of heat till the temperature rose to 400° Fahr. (204.4° Cent.) and upwards, carbonic acid was given off, and the faecal odor already mentioned became very powerful. Some of the crystals were strongly heated in a crucible, and the faecal odor thus developed was overpowering. Bödeker's alcapton, though *ohne Geruch und besonderen Geschmack*, evolved, when heated on platinum foil, an excessively disagreeable, penetrating odor, reminding him of biliary substances. From the dark, half-charred residue, ethereal and watery extracts were obtained, which we found to yield crystals on evaporation. Ether extracted a compound to which a good deal of foul odor clung; and which crystallized in little pyramids and small radiating or stellate forms. These were brownish, dissolved very freely in ether, but sparingly in water; the watery solution was neutral, and even when apparently very weak gave a deep green and then a brown with alkalies, and exercised a strong reducing action on Fehling's solution. We obtained a watery extract which deposited large, irregular red crystals; a deep, almost coppery red solution of these, evaporated in a steam bath, left a deposit showing all the colors of the spectrum in concentric circles.

5. The behavior of urrhodinic acid with ferric chloride was peculiar. When to a solution sufficiently strong to have a tinge of color a weak solution of the chloride was cautiously added without agitation, a distinct but not very deep green was perceived, apparently belonging to a precipitate and not in solution, but this almost immediately disappeared, no matter what the proportion of the constituents of the mixture. If the solution of the acid was so strong as to be reddish-brown, the precipitate was dark, as if brownish-black, and a coppery color was developed before its disappearance.

6. The acid gave beautiful white precipitates with both neutral and basic lead acetate.

7. On platinum-foil the crystals burned with a luminous, somewhat smoky flame, leaving a small residue of charcoal, which was more slowly but completely consumed.

8. Heated with soda-lime, no ammonia

was evolved. The compound was therefore free from nitrogen.

It is unnecessary to give further reactions. We have not yet made an ultimate organic analysis of this body, but have everything now in hand for doing so.

We have already stated that a peculiar yellow body may be extracted by ether from this urine without acidulation. This crystallizes with some difficulty in wavy and branching forms. It is of neutral reaction, not affected by alkalies, and only turns Fehling's solution of a green color. Without certain precautions, it is obtained along with a small admixture of the compound which yields the urrhodinic acid, and this mixture gives first a green and then a brown with alkalies, and is unquestionably the supposed pyrocatechin of Ebstein and Müller. This yellow body is probably itself a decomposition-product of urrhodinic acid, but the crystalline form is not the same as that of the serixanthine already mentioned.

It would appear as if all the peculiarities of this urine were not explained, even by the presence in it of so remarkable a body as urrhodinic acid. The low amount of urea, and apparently of the other nitrogenous compounds of normal urine, seems to forbid such a conclusion. The further we proceed in the matter, we feel the more certainty in stating that this urine contains some nitrogenous compound peculiar to itself, and of which the urrhodinic acid is a decomposition-product. By a certain method of extraction, we have, in fact, obtained a body which yields a large amount of urrhodinic acid by acidulation, and which, when heated with soda-lime, evolves ammonia in abundance. We believe this compound was not altogether free from impurity, but feel sure that it could not contain so much of a nitrogenous nature as to yield the large amount of ammonia given off. We are repeating this process with further precautions against error from this source.

It is interesting to observe that the urine in the case published by Schmiedeberg and Meyer also contained a nitrogenous compound which they believed to be a uramidocampho-glycuronic acid. The kind of urine we have been considering must result from a profound perversion or arrest of the metabolic processes, and its further investigation may throw fresh light on some important problems, as that of the antecedents of urea and others.*

* We have examined human urine in many diseases, and the urine of the horse and cow in a few instances, but have not found any trace of urrhodinic acid.

Sounding the Frontal Sinus.

In the *Berliner Klin. Wochens.*, No. 3, 1887, is a paper on this procedure, which has hitherto been thought impracticable. Ph. Schech in his work says that he failed to pass a sound from the nasal cavity into the frontal sinus "after repeated attempts;" and C. Michel believed that it would be necessary first to remove the middle turbinated bone. It will be remembered that the opening from the middle meatus into the frontal sinus is only diminished by the mucous membrane, not entirely closed. Jurasz's first attempt was made four years ago in a case of purulent catarrh of the frontal sinus and temporary retention of the secretion. The following is a short abstract of this case, which was narrated at Freiburg in 1883 (Laryngological Section): A servant girl, aged 17, attended among the out-patients on December 18, 1882, complaining of severe frontal headache. There was an abundant purulent discharge from the nostrils, and whenever this discharge diminished, the pains increased, and *vice versa*. After galvano-caustic removal of the hypertrophied part of the middle turbinated bone, the nasal cavity was douched three times daily, and various means were used in addition—insufflations of boracic acid and various astringents—all without effect. On February 4 the first attempt to pass the sound was made. A fine thin metal probe was introduced into the right middle meatus and pushed gently forwards, when engaged in the aperture, to the frontal sinus; measurement showed that the sound must have passed into this. No pain was given, though a few drops of blood escaped with the pus. The patient soon felt better, and the probing was repeated once or twice a week, with great relief, not only on the right, but the left side. The final result, however, could not be stated, as the patient soon left Heidelberg. So far there was no proof of the actual passage of the sound; but in July, 1883, there was brought to the notice of Prof. Jurasz a patient whose frontal sinus was fully laid open by a cancerous ulceration of the forehead. The dressings were not at once removed, but the sound was first passed from the left middle meatus, and then, on removing the dressings, the end of the probe was plainly visible in the frontal sinus, being freely movable therein. Dr. Kilian, of Worms, a specialist, was present at the time, besides others; but in this case the probe could not be passed from the right side till three attempts had been made, the opening being oblique. Since then this probing has been tried in twenty-one cases

more, principally for catarrh of the frontal sinus. In five cases this was done equally on either side, and without trouble; in six great difficulty was encountered (and finally overcome) on one or both sides; and in ten the attempt had to be abandoned. In all these cases the aperture into the frontal sinus could be distinctly seen; other cases in which, from new growths or swelling of the mucous membrane, or deviation of the septum, that opening could not be seen, are not reckoned here. Thus the percentage of successful operations is as yet but small, but may be increased. Metal probes very fine and slightly knobbed were used; but perhaps whalebone would be a better material. A handle is unnecessary. The difficulties vary; the ostium frontale may even be absent on one side, or there may be more than one opening. In any case the anterior part of the infundibulum is the site of the opening, if present, where there is a comma-shaped rim rounded off upwards, when the head is thrown back. This is the place to aim at. The length of the bony canal is twelve to sixteen millimetres, and its lumen is not uniform. Its direction, too, may be either outwards or inwards, and may even be angular. The probe must be moved forwards lightly and carefully, otherwise the mucous membrane may be injured, and the sound be entangled in a false passage. The chief indication for this procedure is purulent catarrh of the frontal sinus, when the secretion is pent within and cannot escape. The case narrated shows the good consequences of this operation, which may thus prove an acceptable substitute to the usual puncture of the sinus from the nasal cavity by a trocar, or the occasional trephining from without.

Case of Undue Frequency of the Pulse.

Before an English medical society, Dr. Blaikie Smith read notes of a case where this was the only apparent deviation from health. The patient, a blacksmith, aged 54, was admitted into the infirmary on March 1, complaining of an uneasy feeling over the præcordia, and shortness of breath on exertion. The apex-beat was invisible, and could not be felt; slight heaving was felt over the epigastrium, but no other pulsation. Auscultation showed the heart's action to be 196 per minute; the sounds were like those of the fetal heart, and there was no murmur. The heart was not enlarged; the pulse was regular, but feeble and compressible, and its beats corresponded with those of the heart. The lungs were healthy; there

were no abdominal symptoms; the urine was normal, and there was no dropsy. Save that for several years he had suffered occasionally and without evident cause from attacks of beating and jerking over his heart, the previous history was unimportant. Shortness of breath and sometimes perspiration attended these attacks, and they subsided abruptly. The present attack came on several days before his admission. Bearing in mind that attacks of undue frequency of the pulse sometimes end spontaneously, the case was simply watched for twenty-four hours. The pulse-rate was then still unchanged, 196 per minute, and the sphygmograph gave a hyperdiastolic pulse-tracing. With the view of lowering the pulse-rate and increasing its tension, tincture of strophanthus (1 in 20) in five-minim doses was ordered to be given every four hours until the pulse-rate was reduced, the quantity of urine being measured. On March 3, after three doses of strophanthus, the pulse was 200, regular, and could be counted only by auscultation of the heart and timing with a watch. Sphygmographic tracing showed the pulse to be of still lower tension and feebler character than on the day before; urine 100 ounces. On March 4, after eight doses of strophanthus, the pulse was 64, natural. Sphygmographic tracing showed a regular pulse, with very characteristic marks of high tension. The heart's action and sounds were normal; the apex-beat was in its usual situation. One hundred and five ounces of urine were passed, and the patient felt well. From that date till he left the hospital on March 8, nothing further worthy of record occurred. The pulse rose to 80, the sphygmographic tracing became more natural, and the urine fell to the usual amount. Dr. Smith considered that the treatment had conduced to the relief of the symptoms on account of the remarkable changes in the pulse-tracing, and the concurrent increase in the secretion of urine. Dr. Smith had hoped to confirm his opinion by further observation in similar attacks, but the patient, probably alarmed at the frequent use of the sphygmograph, levanted from the hospital before this could be attained.

Washing Out the Stomach in a Case of Intestinal Occlusion.

In a communication to the Clinical Society of Paris, M. Jacos relates the following case, a summary of which appears in No. 7 of *La France Medicale*:

B. Valentine, set. 26, was admitted to the

Hotel Dieu under the care of M. Empis, on the 17th of March, 1886. B. is three months pregnant, and is stout in build. She states that on the 14th instant she was suddenly seized with a severe fit of vomiting unaccompanied by pain. In the evening of the same day she vomited several times again; after ten hours she began to feel pain in the abdomen. The vomit was a yellowish fluid; and pain now became more marked in the abdomen. During the next two days she was unable to keep down any nourishment, and her urine was very scanty. On admission to hospital, her eyes were sunken; the abdomen was distended and tender to pressure, and the form of a pregnant uterus was easily made out by manipulation. Nothing was learned from a rectal examination. The hernial orifices were free. From the 18th to the 22d, her condition was miserable; no action of the bowels; the abdomen greatly distended; urine very scanty; and the yellowish non-feculent vomit continuing without cessation. On the 22d she became very restless. The tympany increased, with considerable dyspnoea and a continuance of the vomiting. Injections produced no result; 40 grammes of eau de vie were given.

23d. The same injection as yesterday, without result. The patient sinking.

24th. The general state of the patient worse. Pulse small, temperature 97°; tympany very severe; suppression of urine; vomiting non-feculent but continuous. First washing: Two litres of very cold water (kept cold by ice) were introduced into the stomach, but were quickly returned, as clear as when introduced. It was noticed that on the introduction of the water, the patient complained of a very violent pain in the stomach. No vomiting occurred that evening, and the patient appeared greatly relieved, and passed about 200 grammes of urine. Ice applied over the abdomen.

25th. Vomited once to-day; during the night complained of violent pains in the abdomen, and passed some wind per anum. Second washing out of stomach as yesterday with ice-cold water, followed by similar pains to those of yesterday. During the evening of the day she passed a very liquid stool, with much wind.

26th. The more alarming symptoms have disappeared, so it was deemed unnecessary to again wash out the stomach.

On the 27th she was discharged cured, and her health remained good during her confinement at the normal period.

In the discussion that followed the reading of the paper, the question came up as to how the

washing out acted, some holding the opinion that poisonous products were washed out; others, that the cold fluid by causing contraction of the viscus, excited a peristaltic movement. Considering the apparently hopeless case that was so quickly cured, the remedy is one well worth trying before operative procedures are resorted to in cases of intestinal occlusion.

The Cause of Chronic Gastric Ulcer.

The pathology of chronic ulcer of the stomach, in spite of the great mass of clinical and anatomical facts collected, remains unsolved. The usually accepted theory as to its cause is that it is the result of self-digestion by the stomach over an area of mucous membrane the vessels of which have been blocked by embolism or thrombosis. This theory is very plausible in appearance, though no facts directly tending to establish it have been discovered. Rasmussen, of Copenhagen, has lately suggested another theory, which he considers will explain many cases of ulceration of the stomach. It is, for example, not uncommon to find, after death, a groove on the stomach extending from about the middle of the lesser curvature obliquely towards the greater curvature. This groove is often marked by a distinct thickening of the serous membrane, and may be continuous with a similar groove on the liver. In some cases the mucous membrane beneath the sulcus is atrophied; in others it is normal, and lies in folds. The groove of the stomach takes the direction of the left ribs, and is caused by pressure on the organ through tight-lacing. Rasmussen compares the number of cases where this groove is found with the number of scars of ulcers in actual ulcers found in the cases. In the hospital from which the cases are taken, and which is reserved for the incurable and the aged poor, he finds scars, representing old ulcers of the stomach, in seven per cent. in men and thirty-two to thirty-six per cent. in women over forty years of age, the majority of the scars being in the same position as the groove caused by pressure. A closer examination of many cases showed that the groove of pressure was present, and was accompanied by a scar of the mucous membrane lying underneath. Rasmussen further states that if tight lacing be considered the cause of ulcer of the stomach, it is readily understood why the scars observed *post-mortem* are often symmetrical on each side of the lesser curvature, why they are more numerous on the posterior surface of the organ, and why they are

usually about the middle of the lesser curvature. Ulcer of the stomach, according to this idea, would therefore be considered as a pressure necrosis.

Electricity in Epilepsy.

Dr. A. D. Rockwell thus concludes a paper in the *N. Y. Med. Jour.*:

1. Electricity possesses a certain value in the treatment of epilepsy. It is not known, nor is it alleged, that used alone it can cure epilepsy. Used in connection with the bromides, however, its value is unmistakable, and under its use a certain proportion of patients will recover that otherwise would fail to do so.

2. It is in the nocturnal variety of epilepsy more especially that the good effects of electricity are seen, although day attacks have been successfully controlled.

3. The methods of electrical treatment that have proved most efficacious in my hands are central galvanization and general faradization.

4. When electricity fails to cure, or aid in the cure, it is often efficacious, by the method of general faradization, in affording grateful relief from nervous symptoms of an indefinite subjective character; in other words, from that general instability of the nervous system recognized under the term *neurasthenia*.

5. The systematic use of electricity renders the system more tolerant of the bromides, and will diminish bromic acne.

6. It is important that electrical treatment should be administered with care and judgment; especially should all interruptions of the current be avoided in central galvanization, as the resultant shock is liable to hasten rather than prevent an attack.

7. Two years must elapse without any attack before any case of epilepsy can be considered as one of positive cure.

REVIEWS AND BOOK NOTICES.

NOTES ON CURRENT MEDICAL LITERATURE.

—The 68th Annual Report of the New York Institution for the Instruction of the Deaf and Dumb, which we have received from Dr. F. C. Riley, shows how admirably that beneficent charity is managed, and how valuable are its services to the afflicted under its care.

—In a reprint just received, the eminent laryngologist, Mr. Lennox Browne, F. R. C. S., describes a successful case of partial excision of the larynx on account of intralaryngeal epithelioma.

—The annual address before the American Academy of Medicine last fall was by Dr. R. S. Sutton, his subject being "Medical Education in the United States, its Defects, and the Remedy." The address is now issued in pamphlet form, and is a thoughtful production.

—The Long Island College Hospital of Brooklyn issues its 29th annual announcement in unusually attractive form, and with an ample amount of matter.

—The Medical Jurisprudence Society of Philadelphia have published a paper by Walter E. Rex, Esq., entitled "Will Contests." It is a valuable resumé of customs and decisions upon this important subject.

—Dr. C. H. Hughes of St. Louis, in a paper before us, maintains the curability of epilepsy and allied affections by galvanism and the phosphated and arseniated bromides.

BOOK NOTICES.

The Practitioner's Hand-book of Treatment, or, The Principles of Therapeutics. By J. Milner Fothergill, M. D., etc. Third American edition. Cloth, 8vo., pp. 660. Philadelphia: Lea Bros. & Co., 1887.

In writing this treatise, Dr. Fothergill undertook to approach the subject of therapeutics in a new and more philosophical manner than previous authors. Taking up one after another each of the great processes which are the conditions of the existence of organic life in man—such as assimilation, excretion, respiration, reproduction, etc.—its physiology is first explained, and then the interferences with it are considered, which leads to an examination of the action of remedial agents, and finally to their clinical application.

This scheme is excellent, and that Dr. Fothergill has been enabled to meet the expectation of readers in the management of it seems shown by the sale of several editions of his work, both in this country and in England.

To the present edition he adds two chapters, one on "The Dietary in Acute Diseases and Malassimilation," and another on "The Management of Convalescence," while the

whole of the text undergoes a careful revision.

Medical Electricity; a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., etc. Third edition. Illustrated. Cloth, 8vo., pp. 304. Philadelphia, Lea Bros. & Co., 1887.

The third edition of this work has been prepared by its author with his usual careful research into medical literature. The additions, he states, fall chiefly within the therapeutic sections, and a fuller account has been given of the appliances for electrical illumination, for electrical baths, and for galvanocautery.

The volume is in moderate compass, and contains a brief exposition of the general topics of electro-physics, electro-diagnosis, and electro-therapeutics, including the applications of the agent to surgery. The author congratulates the profession on the growth of the appreciation of electricity as a remedial agent. He thinks that to utilize it in practice is now a commercial necessity for every physician, and is entirely confident that the time has now come when we may claim for it positive therapeutic results.

The Medical Student's Essentials of Physics and Chemistry. By C. W. Cutler, M. D. Second edition. 12mo. J. H. Vail & Co., N. Y., 1887.

This is a small, well-arranged, carefully-prepared book for the use of students of medicine, and will no doubt be welcomed by many to whom these branches are particularly dry and difficult.

Treatment of Typhoid with Quinine.

At a recent meeting of the Académie de Médecine, M. Dujardin read a paper on the treatment of typhoid fever by quinine and warm baths. The quinine is administered every day in divided doses, of which the total would be about twenty grains. During the first week powdered digitalis is given (four grains daily), and the warm baths are used morning, noon, and evening, the patient remaining therein about 20 minutes each time. The author of the communication, a doctor from Montpellier, assures that out of sixty-five cases thus treated he had only one failure. M. Dujardin, in commenting upon the paper, while encouraging his confrère, thought that we shall never be able to understand the real treatment of typhoid fever until the microbe be better known and cultivated.

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BRIGHT'S DISEASE WITHOUT ALBUMINURIA.

According to Dieulafoy (*Semaine Médicale*, March 16, 1887), as there are now and then cases of albuminuria without nephritis ("transient" or "physiological albuminuria"), so Bright's disease may run its course without a trace of albumen in the urine, or with the presence only exceptionally of this proximate principle in that excretion. This is a fact which is generally admitted in its application to the contracted kidney. In cases, then, where albumen is persistently absent in the urine, the diagnosis of nephritis must be made by the help of other semeiological indications, such as headache, visual troubles, deafness, hypersecretion of urine, "dead fingers" increased sensitiveness to cold, pruritus, dyspeptic troubles, dyspnoea, etc., which will often give a hint as to the true nature of the malady, with or without the convulsive, comatose, and delirious manifestations which characterize the uremia of clinical observers.

Dieulafoy advances three orders of proofs—clinical, experimental, and anatomical.

1. Clinical observation teaches that at the onset of certain cases of chronic nephritis, there may be entire absence of albumen in the urine for a long time; this it is which Mohamed has called the *pre-albuminuric period of Bright's disease*, a denomination which Dieulafoy does not accept, as many well marked cases of Bright's disease have been observed by him where throughout the disease, at the end as well as at the beginning, the urine was free from albumen, and yet the autopsy disclosed the lesions of chronic nephritis. He reports several cases which present great interest in this connection; we have room for only one.

A woman entered St. Antoine Hospital, May, 1886, for a violent cephalalgia. Four years before, without appreciable cause, she had been taken with anasarca of the extremities. At this period she was suffering from headaches, pains in the loins, painful cramps in the legs, and asthmatic breathing. This group of symptoms led Dieulafoy to suspect the existence of acute nephritis. At the end of three months there was improvement in all these symptoms, although the patient was subject to frequent headaches; this state of relative health lasted two years, when the patient found that she could no longer hear well; the headaches became more violent and more persistent, while the pains in the loins, the paroxysms of dyspnoea with precardiac distress, returned. At the time of her entrance into the hospital, the headaches and cramps were very severe, the legs were

oedematous, there were noises in the ears, notes before the eyes, and a marked sensitiveness to cold, especially in the evening. Auscultation of the lungs revealed a healthy state of these organs, but there was a *bruit de galop* (a very important diagnostic sign, according to Potain,) over the heart. Dieulafoi made the diagnosis of Bright's disease of four years' date; and nevertheless the urine examined for twenty-six consecutive days never gave a trace of albumen, while urea and the potash salts were in less than normal amount. The autopsy showed the diagnosis to be correct.

2. The experimental proof consists in the ascertainment by chemical analysis and otherwise of the diminution of urea secretion. A good way to determine the lessened toxicity of the urine by reason of diminution of its nitrogenous waste, is to note the result of the injection of a certain quantity in the veins of some animal, as the hare. With normal urine, it is necessary to inject 50 grms. for every kilogramme of the animal's weight in order to kill the animal. Thus if the animal be a hare weighing two kilogrammes, the quantity necessary to produce death will be 100 grms. of urine. In the pathological state, however, where from atrophy of the glomerules, or other cause, impeding or suppressing their function, the waste matters are much less than in the normal state, it takes a much larger quantity of urine when injected into the veins of the animal to kill it; 100 grms., and even more, per kilogramme, will fail to have a decided toxic action; sometimes such urine seems to be almost as harmless as water.

In the case of the patient whose history we have just sketched, Dieulafoi found that he could inject with impunity in a hare of two kilogrammes weight, 230 grms. of urine without any toxic results, excepting a little dyspnoea and the rather profuse diuresis and some diarrhoea which followed. An injection of 100 grms. of normal urine, says Dieulafoi, would infallibly have killed this animal.

3. The patho-anatomical proofs are such as the autopsy furnishes in confirmation of the diagnosis made by a careful estimate of the pathognomonic symptoms of the disease, albuminuria only being wanting. It is worthy of note that in the cases reported by this writer, the lesions noted were those of the *small contracted kidney* with arterio-sclerosis, and marked wasting of the cortical substance. It has long been known that in this form of Bright's disease, which is frequently unattended with dropsical effusions

(sometimes there is only a slight oedema about the ankles in the last stages), the absence of any considerable amount of albumen in the urine is rather the rule than the exception.

NOTES AND COMMENTS.

Poisoned by Bichloride of Mercury.

What enormous quantities of corroding poisons may occasionally be taken without directly endangering life, is shown by the history of two cases reported in the *Deutsche Med. Woch.*, 12, 1887, by Dr. Hildebrandt. In both cases, by mistake, instead of a morphine powder the patient swallowed sixteen grains of corrosive sublimate. Happily emesis rapidly occurred, and the accident being promptly discovered, large quantities of the white of an egg, dissolved in water and opium, were at once administered. In both cases recovery was complete and rapid. There was no indication of a profound destruction of the *primæ viæ*—as should have been expected from the effect of so large a dose of a corroding poison.

The cases are instructive, but if Dr. Hildebrandt at the conclusion declares "our fear of corrosive sublimate" as exaggerated, we must confess we cannot understand him. Does the fact of the two cases having survived at all prove the non-corroding character or the innocuous nature of the bichloride? It is well known that enormous quantities of the most virulent poisons have at times been swallowed without their having caused any ill-effects whatever. These cases are easily explained, for almost all poisons, when taken in too large a quantity, at once act as an emetic, and many a would-be suicide has to thank for the preservation of his life, his ignorance of the dose of poison needed to induce death. They wish to make assurance doubly sure, and take too much. Further, the prompt administration of the proper antidotes, especially if at once given in those cases where the swallowing of the intoxicating substance was immediately followed by vomiting, has saved lives over and over again. Many experiments have been made on animals, showing the value and importance of early action. Only recently the MEDICAL AND SURGICAL REPORTER published the experiments of a German investigator, who immediately after administering fatal doses of various poisons—aconite, strychnine, alcoholic—had completely neutralized their effect, and therefore totally

prevented all evil consequences, by at once applying the proper antidote, which in the cases referred to consisted in injecting into the circulation an indifferent fluid corresponding in quantity to 8 per cent. of the bodily weight of the animal experimented upon. The same has often been done with physiological antidotes.

That the two cases reported by Hildebrandt survived cannot surprise, therefore; but we must wonder at the conclusion of the doctor, who believes himself justified in drawing the inference that corrosive sublimate is not as corroding nor as virulent as is generally supposed. We question whether Dr. H. would be willing to swallow two grains of the bichloride, to test its innocuous character and non-corroding action. We would advise him in such a case at once to adopt the same procedure which proved so successful in his own two cases, otherwise he might never live long enough to tell the tale.

Such statements as that of Dr. H. concerning the action of a poison well known to be one of the most virulent and corroding of all mineral poisons, can only lead to mischief. No matter how many persons may preserve their lives notwithstanding their swallowing large doses of the corrosive sublimate—either because of the latter, or on account of the prompt application of antidotes—the fact will always remain undisputed, that the drug is a highly poisonous substance, which should invariably be used with the utmost care. Its action must be watched, even when applied externally to ulcerating or suppurating surfaces, or to wounds of any kind. Many cases have been reported but recently where the prolonged application of the bichloride to a wound produced alarming symptoms of poisoning. *Sapienti sat!*

The Treatment of Tonsillitis.

In the *Journal* of January 3, 1885, Dr. G. Partagas recommends the local application of bicarbonate of soda in tonsillitis "before the pain of swallowing is excessive." "Since that date I have tried (says Dr. W. J. Baker, *Brit. Med. Jour.*) this treatment in a large number of cases, and have invariably found it give great relief, not only in the early stages of the disease, but also when suppuration seemed inevitable. Many patients who were quite unable to swallow even liquids without acute suffering were, in the course of an hour or two, almost entirely free from pain, and in the course of four or five days the disease was cured. I advise

the patient, having moistened the tip of the index finger, to dip it into the powder and then rub it gently all over the tonsil; to repeat this every five minutes for half an hour, and then once every hour for the rest of the day. After that two or three applications a day are sufficient until the inflammation has subsided. Since I commenced this treatment, I have never yet had to incise an inflamed tonsil. In one case where suppuration was manifest, the abscess burst under pressure of the finger. The last case I treated was a young soldier just out from home who was suffering from follicular tonsillitis of both glands, with gray patches of exudation, accompanied by a certain amount of fever. He was discharged cured in four days. I can strongly recommend all who have not yet used this treatment to give it a trial."

Inhalations of Carbolic Acid in Whooping-Cough.

About a year ago, Dr. R. Pick published the results which he had obtained from the inhalations of creasote by the aid of an apparatus which, while confining the vapor to the air-passages, allows the entrance of the atmosphere. This apparatus, which has the character of a mask, was described in the *MED. AND SURG. REPORTER*. Dr. Pick has next tried the effect of the inhalation of pure liquefied carbolic acid in whooping-cough (*Deutsche Med. Woch.*, 12, 1887). He places into the apparatus a small ball of cotton-wadding, into the centre of which 15 drops of the carbolic acid are poured. The mask is then worn the whole day, or at least for six hours consecutively. About three times daily the cotton ball is replaced by a fresh one. For the purpose of early discovering any possible intoxication, the urine was examined every day. Dr. P. records the results which he obtained by this method in five children as follows:

1. The course of the whooping-cough becomes much milder, and is decidedly shortened.

2. Notwithstanding the prolonged application, no symptoms of poisoning made their appearance.

The latter point is important, as Dr. A. Schmitz not long since reported the occurrence of convulsions after the inhalation of carbolic acid gas.

Degeneration of the Cortex.

All parenchymatous encephalites, no matter what their direct result, can never be

considered completely cured, unless the individual has been for years under observation and given no signs of disturbance of the functions of the brain. It seems as if these inflammations are apt to give rise to a peculiar degenerative process in the convolutions of the brain, and the longer the inflammation, and therefore the disturbance in the nutrition of the parts continues, the greater appears to be the danger of fatal consequences, which may develop years later.

These cases are rare, and one observed by Dr. Hess (*Wiener. Med. Jahrb.*, 1887, p. 211,) is therefore of great interest. A woman, *æt.* 67, had suffered when 31 years old from a parenchymatous encephalitis. She was seized, a year before her death, by several apoplectic attacks, became finally palsied on the right side, and showed diminution of intelligence in general. The autopsy revealed a peculiar degeneration in the cortex of the cerebrum, the surface was uneven and hard at places, and disseminated hollow spaces of irregular shape and of various sizes, empty or filled with areolar tissue and fibres, were met with, all evidences of some chronic degeneration going on for years. In the cerebellum one single larger focus was met with. H. observes that the few cases recorded in literature, where the post-mortem gave the same result, all had a previous history of a parenchymatous encephalitis years before the outbreak of the final disease.

Cæsarian Operation and Chromic Acid—Catgut.

Dr. Mikulicz recommended some time ago the employment of catgut ligatures, which have been previously soaked in a strong solution of chromic acid. Dr. Leopold, who was in the habit of using silver sutures in his operations within the abdominal cavity, has recently tried the catgut treated as recommended by Mikulicz (*Deut. Med. Woch.*, 21, 1887). A woman with a pelvis rachitic in a high degree with a conj. vera of 6½ ctm., and another with a pelvis in a similar condition, but the diameter only 5½ ctm., had the Cæsarian operation performed on them by L. In the first case 10, in the latter 12 deep chromic acid catgut sutures were applied. The catgut remained in an excellent state throughout, and L. ascribes the remarkably good result, which he obtained in both cases, to these catgut ligatures. They do not yield, and thus prevent hemorrhages with all their usual septic consequences; and neither are they absorbed too early. The catguts are prepared as fol-

lows: Raw catgut is placed for 48 hours in 10 per cent. carbol-glycerin, afterwards it remains for five hours in a solution of chromic acid of one-half per cent., and it is finally preserved in absolute alcohol. This preparation, while possessing all the advantages of the common catgut, has none of its drawbacks.

Symptoms of Poisoning After Balsam of Indian Hemp.

Dr. A. Miller, in Munich (*Munich Med. Woch.*, 11, 1887), prescribed for a vigorous peasant woman, who had been suffering for some time with insomnia, the balsam of Indian hemp, as recommended by Dr. Jul. Danzel. The first pill, containing only about 1½ grains of the balsam (0.10) produced a semi-comatose state, all kinds of anomalies of sensation, very great dryness in throat and pharynx, feeling of fainting, and hallucinations. The pulse was 120, threadlike. About one hour after the second pill, and after the administration of strong black coffee, emesis occurred, and both pills were vomited very little changed.

M. has observed similar symptoms of intoxication in restless patients, to whom he administered the balsam of Indian hemp. The dose in these cases always averaged about five grains (0.3). Especially in two cases, one with an organic heart and kidney disease, the other tuberculous, where the usual hypnotics had been of no avail, the dose of the balsam could not be repeated on account of the grave symptoms developing.

The balsam of Indian hemp, which has been greatly praised by many observers, evidently is far more active in its effect than the extract, and caution is needed in its use.

Treatment of Hepatic Abscess.

At a recent meeting of the Académie de Médecine, M. Rochard reported a case of hepatic abscess which had been communicated by MM. Ferron and Coustan. He remarked that since the expeditions to Tonquin, Madagascar, and Senegal, many fatal cases of abscess of the liver had occurred which might have been cured had they been recognized and operated on in time. The case reported by MM. Ferron and Coustan had done well, as it had been operated upon when the abscess threatened to burst into the pleural cavity. According to M. Rochard, the best way of treating abscess of the liver is by free incision, washing out the cavity with an antiseptic fluid, and drainage, the wound being dressed after

Lister's method. As soon as a purulent collection in the liver is discovered, prompt action should be taken. M. Trelat agreed with M. Rochard, and remarked that the operation in question was performed every day in the hospitals of Paris. Abscesses of the liver might be opened if there were no adhesions, and if care were taken to unite the edges of the wound in the liver with the edges of the skin wound. The danger of simple puncture arose from the fact that it was not aseptic.

Fatal Result of Large Doses of Thallin.

Professor Ehrlich, who has had very good results from thallin in typhoid fever, has had the candor to report a case (*Münchener Med. Wochenschr.*, No. viii.,) which ended fatally under repeated progressive doses; namely, 0.08 up to 0.58 grammes (one and a quarter grains to nine grains nearly)—of thallin tartrate. The necropsy showed the lesions of typhoid fever in the healing stage, cardiac hypertrophy and dilatation, fresh mitral endocarditis, and hemorrhagic infarcts in the renal papillæ, the last-mentioned being, as shown by experiment, a characteristic sign of thallin poisoning. Ehrlich assumes that the cardiac condition caused defective excretion and consequent accumulation of thallin. The danger may be completely avoided by fixing as the maximum dose for hourly administration 0.2 grams of the tartrate (3 grains). In the progressive administration of thallin, very small doses are used at first—namely, 0.07 or 0.08 grammes—and this amount is increased daily by $\frac{1}{10}$ gramme. Heart-failure of any kind is a contra-indication of thallin treatment; so are the various forms of kidney disease, and also cases which resist the influence of small doses.

Constipation.

Whether constipation (says the *Med. Press*), is a symptom or a disease, or whether it may not be found in both categories, we do not now propose investigating. All who have read Abernethy's lectures know how much stress he placed on not allowing feces to accumulate in the colon. In 1883, O'Beirne issued his "New Views on Defecation," which he dedicated to the then Lord Lieutenant. The book has now few readers, but the lessons it conveys are well worthy of reproduction. We are led to these considerations by a very valuable paper in the *Medical Bulletin* of Philadelphia, by Dr. J. S.

Jewell, on the evils of constipation; and we cannot help thinking that many young practitioners would find a greater success attendant on their efforts, if they devoted more attention to the commoner complaints of humanity. The pain in the side, the languor, headache, pasty countenance, and cold feet, are more readily got rid of by a simple purge than many recently qualified physicians imagine. No physician can be too well educated, but we confess that he succeeds best in his professional career who is most intimate with the every-day troubles that afflict mankind.

Cerebral Localization.

The following two cases occurred in the practice of Dr. Saleasis (*Encephale*, '87, 3):

Female child, æt. 16 months, general convulsions followed by right hemiplegia with contractures. When æt. 15, grave epileptic attacks with inter-current periods of excitement of an erotic character. Death from phthisis.

Autopsy.—Atrophy in a high degree of the whole left frontal lobe and of both central convolutions, and signs of degeneration in their deeper course.

A man, æt. 32, suffering from general progressive paralysis. Nineteen years before, amputation of the right arm.

Autopsy.—Atrophy of the upper part of the left anterior central convolution.

Whenever convulsions are accompanied by symptoms of paralysis with no other indications of cerebral disturbance, the disease always resides in the gray tissue of the cortex, and in most cases is limited to the anterior lobe, though occasionally also in the motor area of the ascending parietal convolution.

Prevention of Epileptic Fits.

Thinking the following treatment for cutting short and aborting an epileptic fit might be of interest, Dr. F. W. Devereux Long records it in the *Brit. Med. Jour.*:

"A lady, aged 23, has been under my care for nearly two years, suffering from epilepsy, which began about five years ago, she attributing it to a knock on the head from a plank a man was carrying. These fits are both of the *petit mal* and *haut mal* varieties, and were very frequent when she first came under my observation, but she can nearly always make them abort by taking a draught of cold water when at hand; not always having it within reach, she requested me to give her something she could carry about

with her. I gave her some nitrite of amyl globules, five minims in each, and directed her to break one in her pocket-handkerchief and inhale it when she felt an aura. This remedy she has seldom found to fail, and moreover it frequently cuts short a fit, especially in the first stage. I have frequently found this remedy useful in similar cases."

Biniiodide of Mercury as an Antiseptic.

Dr. P. K. Bolshesolsky, of St. Petersburg (*Vratch*, No. xi, 1887, p. 220), from numerous experiments made by himself in Professor A. P. Dobroslavin's laboratory, concludes that biniiodide of mercury is a more powerful and less poisonous antiseptic than corrosive sublimate. Thus he fully confirms the observations of Bernhardt. A solution of 1 in 4,000 destroys putrefaction microbes more completely than a sublimate solution of 1 in 2,000. The biniiodide dissolved in a solution of iodide of potassium was recently tried with apparently good results in three cases of laparotomy, under Professor A. I. Krasowski. For washing the floor, a solution of 1 in 4,000 was employed; for disinfecting the hands, 1 in 2,000; for instruments, 1 in 2,000 and 3,000.

Compound Fracture of Patella.

Before an English medical society, recently, Dr. Altham read a paper on a case of compound comminuted fracture of the patella, and showed casts of the leg. The injury was caused by falling from a height of 17 feet on the bare knee. Comminution was so extensive that there was no hope of the bony fragments uniting; they were, therefore, removed, and the wound was dressed antiseptically, free drainage being provided. In six weeks the patient was able to walk about with the limb in splints, and little more than six months from the time of the accident the knee-joint had almost regained its normal mobility, though there was no patella.

The Microbe of Typhoid Fever.

At a recent meeting of the Société des Hôpitaux, M. Chantemeese made an interesting communication concerning the morphological and biological characteristics of the typhoid-microbe. The sporulation of this microbe takes place between 19° and 48° C. (67° to 104.4° F.). It develops in water, even if sterilized. At a temperature of 45° C. (113° F.) the cultivations live for

several days; they are destroyed by boiling. This microbe retains its vitality in damp ground. Corrosive sublimate (1 in 20,000) and sulphate of quinine (1 in 800) destroy it. Carbolic acid (1 in 400) has no effect on it; hydrochloric acid is also inert, therefore the acidity of the stomach is not inimical to this microbe.

Inequality of Pupils in Healthy Persons.

From an examination of 134 healthy recruits, Dr. G. S. Ivanoff, of Kirilov, came (*Vratch*, No. vii, 1887, p. 162,) to the following conclusions:

1. Equal or symmetrical pupils, as well as equal or symmetrical halves of the face, are met with but very seldom, the former only in 9 per cent. of the persons examined, and the latter only in 2.2 per cent.
2. The inequality or asymmetry is probably dependent upon an asymmetrical development of the cerebral hemisphere.
3. In 54.5 per cent. of persons, the left pupil, and in 73.9 per cent. the left side of the face, is larger than the right one.

Iodol in Diphtheria.

In order to test the statements of Dr. Mazzoni, Dr. L. L. Stembo, of Vilna, tried (*Proceedings of the Vilna Medical Society*, No. v, 1887, p. 114,) the local use of iodol in seven cases of diphtheria, two of which were severe. The drug was applied either alone, in powder, or in the form of a solution (R. Iodoil, ℞; liq. vini, ℥ss; glycerini, ℥ijss). All the patients recovered after treatment lasting from four to six days. The advantages claimed by Dr. Stembo for iodol are its complete harmlessness, its freedom from unpleasant smell or taste, the painlessness of its application, and the absence of any untoward secondary effects, such as loss of appetite, nausea, vomiting, etc.

Local Temperature in Small-pox.

The *France Médicale*, of January 2, gives an account of some observations made by Dr. Montefusco, of Naples, on local thermometry in small-pox. He points out that, in that disease, the region of the spleen has always a higher temperature than the hepatic region and the abdominal walls. There is no constant relation between the local temperature of the spleen and the axillary temperature.

CORRESPONDENCE.

Obstetrical Statistics.

EDS. MED. AND SURG. REPORTER:

A recent writer in your journal propounds this query: "What do you think of a country doctor having 960 cases of midwifery in sixteen years of general practice, and not losing a single case, or using the forceps in a single case?"

The doctor's experience has been an exceptionally bright one. It is very doubtful if any other reader of the *MEDICAL AND SURGICAL REPORTER* can claim even half that number of cases without losing one or more mothers, and probably a child or two. A prolapsed cord is a grave menace to the child even in the most expert hands, and puerperal eclampsia is unfortunately not nearly so rare as the doctor's experience would lead one to suppose.

He has never owned or used forceps, denies their value (as well might he deny the utility of craniotomy), and considers that one element of his success.

In a practice extending over eight years, the forceps were applied on an average about eight times yearly. Have attended four cases puerperal eclampsia in that time; one of these cases was delivered of a living child with the forceps, the convulsions ceasing upon delivery, and both did well. One of the others died, but the labor was otherwise normal, neither forceps nor ergot being used. In another case, the woman died with puerperal fever on the fifth day. But in all the cases in which the forceps were used, both mother and child made excellent recoveries. This is no more an argument for their general use than Dr. Davis' is for their disuse.

A properly constructed forceps can never harm a patient; an improperly constructed doctor can do very much harm, not only with the forceps, but with the hands as well.

The forceps occupy no space that is needed by the head of the fetus. Properly applied, no patient should realize their presence, and does not, save from the relief their assistance gives. Let nature take her course, if you will, but when, as Dr. D. says, "she takes a wrong course," and it is necessary to assist her, he would find in many instances that a pair of forceps, backed by sound judgment, would be less injurious and far more effective than nine-tenths of his hand manipulation.

GEO. H. RHODES, M. D.

Tobyhanna, Pa.

International Medical Congress, Washington, 1887.

EDS. MED. AND SURG. REPORTER:

I observe in your journal for March, 26 1887, a statement that "The item appropriating \$50,000 for the Congress was placed in the Sundry Civil Appropriation Bill, and was therefore, we presume, passed." The fact is that although as you state \$50,000 was placed in the bill by the Senate, the amount was cut down in the Conference Committee to \$10,000, which will be barely sufficient to meet the absolutely necessary expenses of the Congress, but will not provide for entertainments of special character.

Very truly yours,

JOHN B. HAMILTON, M. D.

Secretary-General.

NEWS AND MISCELLANY.

The American Surgical Association.

The American Surgical Association will hold its annual meeting at Washington, on May 11th, 12th, 13th, and 14th. The preliminary programme, just issued, announces the following papers:

Dr. F. S. Dennis, on "The Exploration of the Bladder by the Suprapubic Method."

Dr. John H. Packard, on "Suprapubic Cystotomy for other purposes than the Removal of Calculi."

Dr. A. Vanderveer, "To What Extent can we Classify Our Cases of Vesical Calculi for Operation, with Report of Cases?"

Dr. J. Collins Warren, on "Resection of the Intestines; with Specimens."

Dr. C. B. Nancrede, on "Should Laparotomy be Done for Penetrating Wounds of the Abdomen Involving Viscera?"

Dr. T. A. McGraw, on "Laparotomy for Injuries of the Abdominal Viscera."

Dr. C. H. Mastin, on "Hernia; its Treatment," etc.

Dr. J. E. Michael, on "Report of a Case of Ventral Hernia Successfully Treated by Operation; with a suggestion as to the method of operating."

Dr. Samuel W. Gross, on "The Prognosis of Sarcomata of the Breast."

Dr. D. Hayes Agnew, on "The Medico-Legal Aspect of Cranial and Thoracic Wounds (suicidal)."

Dr. L. McLane Tiffany, on "Surgical Diseases of the White and Colored Races Compared; Preliminary Observations."

Dr. B. A. Watson, on "An Experimental Study of Effects of Puncture of the Heart in Cases of Chloroform Narcosis."

Dr. J. Ford Thompson, on "Case of Vaginal Hysterectomy."

Dr. W. F. Westmoreland, on "Fibrocystic Tumor of the Jaw."

Dr. T. J. Dunott, on "Some Remarks on Hypertrophy of the Tongue, and the History of a Case."

Dr. J. A. Conninger, on "A Case of Varix of the Jugular Vein."

Dr. William A. Byrd, on "Excision of the Ankle-Joint."

Dr. David Prince, on "Wounds; their Aseptic and Antiseptic Management."

Dr. J. Ewing Mears, on "The Study of the Methods of Operation Practiced, and of the Results Obtained in the Treatment of Cleft of the Hard and Soft Palate, Illustrated by a Record of Fifty Cases."

Government Health Reports.

By direction of the Secretary of the Treasury, Dr. John B. Hamilton, Surgeon-General of the Marine Hospital Service, has issued the following abstract of sanitary reports received during the week ending April 14:

England and Wales.—The deaths registered in twenty-eight great towns of England and Wales during the week ending March 26th corresponded to an annual death rate of 23.5 in a thousand of the aggregate population, which is estimated at 9,245,099. The lowest death rate was recorded in Derby, viz., 16.1, and the highest in Manchester, viz., 35.4 in a thousand. One death from small-pox was registered in Portsmouth, 1 in Manchester, 1 in Blackburn, and 2 in Cardiff.

London.—One thousand seven hundred and twenty deaths were registered during the week ending March 26th, including 1 from small-pox, 77 from measles, 14 from scarlet fever, 13 from diphtheria, 42 from whooping-cough, 9 from enteric fever, and 9 from diarrhoea and dysentery. There were 509 deaths from diseases of the respiratory organs. Different forms of violence caused 63 deaths. The deaths from all causes corresponded to an annual rate of 21.3 in a thousand. In greater London, 2,156 deaths were registered, corresponding to an annual death rate of 20.8 in a thousand of the population. In the outer ring, 29 deaths from measles and 10 from diphtheria were registered.

Ireland.—The average annual death rate represented by the deaths registered during the week ending March 26th, in the sixteen principal town districts of Ireland, was 28.4 in a thousand of the population. The lowest rate was recorded in Wexford, viz., 17.1, and the highest in Drogheda, viz., 42.3.

Dublin.—Two hundred and twelve deaths were registered during the week ending March 26th, including 4 from measles, 7 from scarlet fever, 3 from whooping-cough, 1 from cerebro-spinal fever, and 3 from enteric fever. Diseases of the respiratory organs caused 53 deaths. In thirty-five instances the causes of death were uncertified. The deaths from all causes corresponded to an annual rate of 31.3 in a thousand.

Scotland.—The death rate in eight principal towns during the week ending March 26th was 25.9 in a thousand of the aggregate population, which is estimated at 1,299,000. The lowest mortality was recorded in Leith, viz., 10.8, and the highest in Aberdeen, viz., 36.8 in a thousand. The aggregate number of deaths registered from all causes was 646, including 55 from measles, 18 from scarlet fever, 6 from diphtheria, 31 from whooping-cough, and 14 from diarrhoea.

Germany.—The deaths registered in fifty-two cities of Germany, having an aggregate population of 6,763,937, during the week ending March 12th, corresponded to an annual death rate of 25.5 in a thousand. The lowest rate was recorded in Carlsruhe, viz., 14.4, and the highest in Augsburg, viz., 39.4 in a thousand. During the week ending March 19th, the deaths registered corresponded to an annual rate of 25.2. The lowest rate was recorded in Görlitz, viz., 14.5, and the highest in Augsburg, viz., 41.7 in a thousand.

Catania.—Twenty-one cases of cholera and 11 deaths from that disease were registered during the week ending March 19th. The consul states that "nearly all who can get away from the city have gone to the slopes of Etna and elsewhere. The city is almost deserted. Business is paralyzed, the poor are suffering, not being able to get work. There is no doubt but that there have been more cases and deaths than reported. The people have a terror of the lazaretto; hence, when a friend or relative is attacked, often they do not report the case, and the sufferer does not have the advantage of good treatment. Good water is now conducted into the city in closed conduits. The wells have been closed. It is hoped that this may improve the public health."

Havana.—Five hundred and forty deaths were registered during the month of March, including 8 from yellow fever, 6 from enteric fever, 1 from bilious fever, 3 from pernicious fever, 2 from small-pox, and 6 from diphtheria. Yellow fever caused 4 deaths during the week ending April 7th.

Maracaibo.—The United States consul, in his dispatch dated March 7th, in relation to the subject of inoculation as a preventive of yellow fever, briefly mentioned in Abstract No. 51, inclosed copies of letters from the Venezuelan consul at Cucuta, Colombia, and from Dr. Bustamente, of the same city, from which it is learned that "Dr. Urricoechea, surgeon of the frontier battalion, inoculated, by way of experiment, and with good results, five of his soldiers. Twenty minutes after the operation the temperature gradually ascended to 40° C., accompanied with all the symptoms of yellow fever. This lasted forty hours, at the expiration of which had disappeared the fever and all attendant symptoms. This operation was effected in a place called Moras, three leagues from Cucuta, and where a body of troops is stationed, who have not come to this city for fear of the fever. At present the inoculated soldiers are here, exposed to the action of the focus of infection. As in Moras, no case of the epidemic has as yet presented itself." Dr. Bustamente, in his letter, states that "as my labors in the field of inoculation as a preventive of yellow fever are only, it may be said, mere experiments, which, although they may satisfy me with a well-founded hope of successful and complete result, cannot be of genuine utility until the best and most efficacious method is decided upon; I am thinking, however, of making an abstract of my observations, together with the method pursued, the results obtained, and everything that may be useful, in the premises. For the present I will confine myself to the statement that in more than forty persons whom I have inoculated, a fever, with many of the characteristic symptoms of yellow fever, has presented itself; this fever, developed by inoculation, varying several tenths of a degree, and in some cases ascending to 41° C., but never presenting the most grave symptoms of yellow fever. The result of my observations permits me to state positively that the fever produced by inoculation is attended with no danger, and it is safe to inoculate, as I have already done, from children of two years of age to the oldest invalids. Many of the persons inoculated have come to this city, and in no case has the yellow fever attacked them, which gives me hope of a final result completely satisfactory. The municipality, assisted by the merchants, sent to Mexico, January 10th, a commission composed of two physicians, in order to study the inoculation of the fever."

Paris.—One thousand three hundred and fifty-six deaths were registered during the

week ending March 26th, including 62 from measles, 5 from small-pox, 13 from whooping-cough, 44 from enteric fever, 3 from scarlet fever, and 31 from diphtheria.

Warsaw.—Two hundred and thirty-one deaths were registered during the week ending March 19th, including 5 from small-pox.

Trieste.—Ninety-eight deaths were registered during the week ending March 12th, including 1 from enteric fever, 1 from scarlet fever, and 2 from diphtheria. Two cases of small-pox were registered, but no deaths from that disease.

Havre.—Sixty-four deaths were registered during the week ending March 26th, including 1 from small-pox, 1 from enteric fever, 3 from diphtheria, and 1 from homicide.

Palermo.—One hundred and ten deaths were registered during the week ending March 26th, including 1 from enteric fever, 4 from scarlet fever, and 8 from diphtheria.

Genoa.—One hundred and twenty-seven deaths were registered during the week ending March 26th, including 3 from small-pox, and 2 from enteric fever.

Amsterdam.—Two hundred and twenty-eight deaths were registered during the week ending March 26th, including 1 from enteric fever, and 3 from diphtheria.

Copenhagen.—One hundred and fifteen deaths were registered during the week ending March 22d, including 8 from diphtheria.

Toronto.—Thirty deaths were registered during the week ending April 2d, including 2 from enteric fever, and 2 from diphtheria.

Three Rivers.—Seven deaths were reported during the week ending April 9th, including 1 from diphtheria.

MORTALITY TABLE, FOREIGN CITIES.

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—				
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Diphtheria.
Paris	M'ch 26.	2,280,045	1356			5	44	3
Warsaw	M'ch 19.	431,572	230			5		
Havre	M'ch 26.	112,074	64			1	1	2
Trieste	M'ch 12.	150,157	98				1	1
Palermo	M'ch 26.	230,000	110				1	4
Genoa	M'ch 26.	179,882	127			3	2	
Amsterdam	M'ch 26.	378,690	228				1	
Copenhagen	M'ch 22.	289,000	115					
Toronto	April 2.	120,000	30				2	
Three Rivers	April 9.	10,000	7					
Leghorn	M'ch 27.	101,172	56					
Pernambuco	M'ch 15.	111,000	61					
Cadix	M'ch 26.	65,028	64					
Gibraltar	M'ch 20.	23,631	12					
Matamoros	April 2.	12,000	12					
Acapulco	M'ch 27.	4,000	3					
Lagayra	M'ch 26.	7,428	5					
Rotterdam	M'ch 26.	190,521	109					
St. Thomas	M'ch 18.	15,000	12					
Curacao	M'ch 26.	25,000	11					
Kingston, Canada	April 8.	15,109						

The Connection Between Chemical Constitution and Physiological Action.

At a meeting of the Royal Society on Thursday, March 31st, Drs. Lauder Brunton, and Cash made an important contribution to our knowledge of the Connection between Chemical Constitution and Physiological Action. In a former paper, the authors had discussed a number of the compounds of ammonia, and in the present they took up a number of substances allied to carbolic acid. A certain parallelism was observed between the changes of physiological action noticed in the compounds of ammonia and in those of benzene by the introduction of chlorine, bromine, iodine, and hydroxyl. Although these radicals do not modify the action of benzene so much as that of ammonia, yet, both in the ammonia compounds and the benzene compounds, the iodine seems to produce a greater tendency to paralysis of motor nerves, while hydroxyl tends to cause irritation of the nervous centres and tetanic convulsions; so that both solutions of ammonia and carbolic acid act on the frog as convulsant poisons in somewhat the same manner as strychnine. One marked peculiarity of the benzene compounds, however, is their tendency to cause tremor of various kinds, so that some of them produce in the frog symptoms like those of disseminated sclerosis in man, and others a form of locomotor ataxy.

The South Carolina Medical Association.

The South Carolina Medical Association held its thirty-seventh annual meeting at Aiken on the 12th and 13th of April, under the presidency of Dr. Cornelius Collock, of Cheraw. A number of interesting papers were read, and the Society recommended the establishment of a State Medical Examining Board, the members of which should be appointed by the Governor, from nominees presented by the South Carolina Medical Association.

The following officers were elected for the ensuing year:

President—T. Grange Simons, M. D., of Charleston.

Vice-Presidents—James Evans, M. D., of Florence; Thomas Legare, M. D., of Charleston; and D. S. Pope, M. D., of Columbia.

Secretary—W. P. Porcher, M. D., of Charleston.

Treasurer—H. W. De Saussure, Jr., M. D., of Charleston.

The next meeting will be held at Columbia, on the second Wednesday in April, 1888.

M. Pasteur's Intensive Inoculations.

Those who are exercised lest M. Pasteur's latest form of inoculation may communicate rabies to healthy persons are not always temperate in their expressions, if we may judge by a letter which Professor Pajot recently addressed to the editor of the *Journal de Médecine de Paris*. Although M. Pajot professes his readiness to contribute to a fund for raising a statue of Pasteur, in case it is proved that his practice is successful, he urges its trial on criminals condemned to death, the inoculations to be done under the supervision of a commission consisting of *two fanatics* (presumably, believers in the Pasteur system), two opponents of the method, and a presiding officer chosen by the four.

The Pennsylvania State Board of Health.

The sixth regular meeting of the Pennsylvania State Board of Health was held in Harrisburg on Thursday, April 14. While much routine business of importance to the State was transacted, the chief interest of the occasion to the public centred in the Annual Address before the Board, which was delivered in the hall of the House of Representatives on the evening of the same day by the Hon. E. A. Wood, M. D., of Pittsburgh, formerly a member of the State Legislature, who will be remembered by his colleagues in that body as a brilliant, forcible, and witty speaker. His address was worthy of the occasion, and an intellectual treat to all who had the good fortune to be present.

A Cure for Diabetes.

In a paper recently read by M. Martineau before the Société de Thérapeutique of Paris, he claims to have treated diabetes with invariably good results for ten years past by means of a solution of carbonate of lithium and arsenate of sodium in aerated water, which is taken not only with meals, but whenever the patient is thirsty. He claims by these means to have cured sixty-seven diabetic patients who have been under his care.

Portrait of Dr. Koch.

Messrs. Parke, Davis & Co., Detroit, Mich., have published a large and excellent portrait of Dr. Robert Koch, the eminent bacteriologist. With characteristic liberality, they authorize us to say that if any physician will apply to them for a copy, mentioning this notice, they will send him one without charge.

Therapeutic Notes.

Emulsion of Cod-Liver Oil.—The emulsion of cod-liver oil prepared by Messrs. Scott & Bowne, New York city, is distinguished for its purity, permanence, and smoothness. In cases where it has been tried, it has agreed well with the stomach, and we believe is not surpassed by any other in the market.

Personal.

—Dr. W. B. Atkinson, 1400 Pine street, Philadelphia, is prepared to execute literary commissions for physicians, such as revising MSS., supplying articles, arranging indices, collating authorities on special subjects, etc. Dr. Atkinson's extensive experience in medical literature eminently qualifies him for these studies.

Items.

—Consumption is quite prevalent in Dakota, according to Dr. J. E. Engstadt, in the *Medical Age*. The Indians especially suffer from it, and so do the Norwegian immigrants.

—An International Congress of Cremation is to be held at Milan in September, 1887. Among the honorary presidents are Sir Henry Thompson, of London, and Professor Moleschott, of Rome.

—The sum of \$700,000,000 is spent annually for alcohol by the 15,000,000 drinkers of this country, and the sum of \$600,000,000 by the 8,000,000 drinkers of Great Britain and Ireland.

—A prize of \$2,000 (10,000 francs) is offered by the Académie de Médecine, Paris, for the best work on the treatment of stricture of the urethra, or on the therapeutic methods for diseases of the urethra.

—A new medical journal is to be published shortly in Paris, under Professor Grancher's direction. It will be called the *Univers Médical*, and the editor intends to devote a much larger part to foreign news than is usually given in French papers.

—The Norwegian Government has taken another step towards discovering the origin and nature of leprosy, which is so common on the west coast of Norway, by despatching Dr. G. A. Hansen, director of the Leprosy Hospital at Bergen, to this country, for the purpose of inquiring into the heredity of the disease among Scandinavian emigrants to the United States.

—In the preface to the last edition of an English medical work entitled "What to

Do in Cases of Poisoning," the author, Dr. Murrell, says: "This work has reached a fifth edition, but it is not my fault, and I disclaim all responsibility in the matter. I am told that it has been the means of saving many lives, and I have no doubt this is true, for I hear that a gentleman who thought of poisoning himself changed his mind on reading the directions for treatment."

OBITUARY NOTICE.

JAMES STEWART JEWELL, M. D.

From the *N. Y. Med. Jour.* we learn that James Stewart Jewell, M. D., of Chicago, died on Monday, the 18th inst., in the fiftieth year of his age. For several years he had been the subject of a disease which, it was plain to his friends, forbade the expectation of his reaching a much greater age. He was emaciated, sallow, and feeble in body, but the brilliancy of his mental powers and the charm of his conversation were in nowise dimmed on the occasion of his last visit to New York, some months since, whatever may have been the case towards the close of his life.

Dr. Jewell, who was of mingled Scotch and English ancestry, was born September 8, 1837, near Galena, Illinois. He took his medical degree from the Chicago Medical College in the year 1860, and began practice in Williamson county. In 1862 he changed his residence to Chicago, and has since been widely known as one of the most eminent physicians of that city, and indeed of the whole country—first as a general practitioner and afterward as a neurologist and as a writer. During the late civil war he served as a contract surgeon in General Sherman's army. For many years he occupied the chair of nervous and mental diseases in the faculty of the Chicago Medical College, and was the professor emeritus at the time of his death. He was one of the founders of the *Journal of Nervous and Mental Disease*, and for several years its chief editor. Most of his literary work was published in that journal. More recently, when he had recovered to some extent from the debility consequent on his malady, he began the issue of a new journal, the *Neurological Review*, but, unfortunately, was soon compelled, by the renewed inroads of his fatal disease, to suspend its publication.

Dr. Jewell was held in the highest esteem by his fellow-workers in neurology, and was respected, admired, and most warmly regarded by all whose good fortune it was to be brought into contact with him.